**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**Washington, DC 20554**

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|---|---|
| In the Matter of<br><br>Unbundled Access to Network Elements<br><br>Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers | **WC Docket No. 04-313**<br><br>**CC Docket No. 01-338** |

Declaration

of

# LEE L. SELWYN

on behalf of

AT&T Corp.

October 4, 2004

DECLARATION OF LEE L. SELWYN

EXECUTIVE SUMMARY

1. In the *Triennial Review Order ("TRO")*, the Federal Communications Commission ("Commission") specifically concluded that "[w]hen competitive LECs self-deploy fiber they predominantly do so at the OCn-level," that "the record contains little evidence of self-deployment, or availability from alternative providers, for DS1 loops," and "that at a three DS3 loop capacity level of demand, it is economically feasible to self-deploy." The Commission identified several *specific barriers* to CLEC facilities deployment, and on that basis found that at a national level CLECs generally would be impaired without access to UNEs for dark fiber, DS-1 loops, and for less than three DS-3 loops provided to the same customer location. Similarly, the Commission determined that self-provisioning of interoffice transport links generally could not be economically justified unless the CLEC's capacity requirement was greater than twelve DS-3s *over each specific point-to-point route*, or where there were less than two other CLECs offering wholesale interoffice transport over the specific point-to-point route. As subsequent analyses by a number of state commissions have demonstrated those thresholds are if anything too low – it is often the case that CLECs cannot economically deploy facilities even at capacities far above the 3 and 12 DS3 thresholds that the Commission had established in the *TRO*.

2. The Commission recognized that rational analysis of high-cap loop and transport impairment requires recognition of some basic marketplace and economic realities. First, because the economics of self-provisioning are critically influenced by the circuit capacities involved and the potential revenues available from the service provisioned over those circuits, impairment analyses must be conducted separately for each of the principal market segments, disaggregated by circuit capacity. Second, because enterprise markets are *point-to-point*, aggregation should be permitted only to the extent that it can be demonstrated that the point-to-point markets in question reflect sufficiently similar competitive characteristics, including building access, rights-of-way and other key factors. Third, there must be a strict focus upon market dynamics and upon present and expected future market characteristics, rather than upon static "snapshots" of existing or past conditions. The Commission's *TRO* analysis largely – and laudably – conformed with these core principles in reaching its conclusions (I) that competitive self-deployment is uneconomic below certain DS-3 thresholds; (ii) that given obvious differences in relevant competitive conditions a route-by-route analysis is most appropriate, especially given the capacity limits on UNE availability; and (iii) that the availability of special access at rates that are constrained by neither competition nor regulation does not remove impairment. Verizon *et al* now urge the Commission to jettison that reasoned analysis in favor of new analyses that ignore each of these fundamental principles.

3. The RBOCs contend that CLECs are not impaired in their ability to compete in the enterprise market without access to UNEs. Through a series of *ex parte* submissions made in WC Docket No. 01-338, they undertake to demonstrate (a) that the deployment of fiber optic distribution and transport facilities by CLECs is so extensive that their need for access to RBOC network facilities is limited, and (b) that such RBOC facilities as CLECs may still require can be obtained by CLECs as "special access" services at rates that allow CLECs to compete effectively. Notably, the RBOCs do not attempt to refute the fundamental economic reasons why CLECs cannot self-deploy. In support of the first contention, the RBOCs provide various statistics and maps purporting to document existing CLEC fiber both nationally and in a number of the larger Metropolitan Statistical Areas ("MSAs") that fall within each of their respective footprints. In support of the second claim, the RBOCs offer detailed, in some cases street-level maps purporting to identify specific building locations where, they claim, competitors are "successfully" providing high-capacity services using special access purchased from incumbents. A close examination of these contentions – and of the "evidence" proffered by the RBOCs in support thereof – reveals numerous factual errors, reliance upon erroneous and inconsistent undocumented data sources, a consistent failure to reflect present marketplace realities, and numerous exaggerations, overstatements, misinterpretations and mischaracterizations of the data being presented.

4. In making these claims, the RBOCs attempt to draw impossible inferences from competitive transport deployment that *loop* bypass is economically feasible. They ignore critical capacity distinctions and posit, without any factual basis, the existence of MSA-wide and larger geographic markets while ignoring altogether their own evidence that route-to-route competitive conditions vary widely within and across such geographies. They seek nationwide findings of non-impairment on the basis of evidence of fiber deployment that is confined entirely to a handful of individual buildings located in the densest urban centers, and of impossible inferences drawn from the inapposite experiences of largely RBOC-controlled wireless carriers. The RBOCs' "evidence" of fiber deployment also relies upon erroneous and in many cases entirely undocumented sources, misrepresenting resold ILEC services as CLEC-owned facilities and entrance facilities as interoffice transport facilities. Finally, the RBOCs rely upon static market share-based analyses that simply ignore fundamental changes in market structure and industry dynamics that provide the RBOCs both with incentives and ability to execute crippling price-cost squeezes funded and abetted by the excessive prices they impose for special access and other RBOC monopoly services that confront no realistic competitive challenge.

5. Perhaps the most important – and clearly fatal – of the numerous flaws in the RBOCs' studies is their failure to differentiate CLEC customers and self-deployed facilities *by capacity*. Merely identifying routes or buildings served by competitive fiber without regard to capacity of the circuits is of no relevance to this proceeding. No one contends that CLECS are impaired without access to OCn circuits. Rather, the relevant question is the extent to which CLECs are impaired without access to DS-level circuits below the thresholds established in the *TRO*. When considered in light of this relevant inquiry, the RBOC submissions actually *confirm* the extremely limited

extent of competitive fiber deployment and the utter dependence of CLECs upon access to RBOC high-capacity network facilities for the vast majority of the enterprise customers that CLECs serve with DS-level circuits.

***Loops***

6. The RBOCs' information on CLEC fiber deployment at end user enterprise customer locations has been gleaned from a number of sources of highly questionable accuracy and reliability. At a national level, Verizon claims that there are some 48,350 "lit" buildings – i.e., customer locations at which CLECs have deployed fiber. Upon closer examination and after correcting those of Verizon's figures for which alternate documentation is available, it is clear that the correct figure is only about half the Verizon number. In fact, the actual number is probably well below that (given, for example, that it is unclear that Verizon has not double-counted buildings served by more than one CLEC). But whether the correct number of "lit" buildings is 48,000, 28,000 or less, that still leaves roughly *three million commercial premises nationwide* at which *no CLEC-owned facilities are available*, and where the only means by which a CLEC can provide service is through the use of ILEC-owned facilities. The MSA- and street-level detail offered by Verizon and SBC serve to graphically confirm and demonstrate this point. On its map of San Francisco, for example, SBC has identified approximately 1231 locations at which customers are being served by CLECs. Of these, some 94.2% (1160 buildings) are being served using special access services purchased by the CLEC from SBC, and only 71 buildings – i.e., 5.8% – are locations at which SBC believes that "lit" CLEC-owned fiber is deployed. Not shown on any of SBC's maps are any of the enterprise customer locations where the *retail* service is being provided by SBC itself. Thus, the proportion of total enterprise customer locations where "lit" fiber is in place is, *at the very most*, only about 5%, *and is almost certainly considerably less than that*.

7. More to the point, the RBOC data is completely undifferentiated by capacity level. Even if evidence of competitive deployment of relevant facilities at only 5% of locations could justify a finding that self-deployment is economic in the 95% of locations where it has not taken place, the RBOCs' evidence does not identify self-deployment of *relevant* facilities – i.e., those below the 3 DS-3 threshold at which CLECs seek UNE access. Rather, the best evidence of self-deployment of these relevant facilities comes from the state PUC impairment case records, as compiled by QSI Consulting, Inc., confirming both the *de minimis* use of CLEC fiber for DS-level services and the extraordinary exaggerations that have been put forward by the RBOCs. Although the RBOCs all fail to provide any data regarding the capacity of the "lit" circuits provided by CLECs, the reality is that virtually all of those "lit" buildings are OC-level facilities.

| QSI Analysis of Claimed vs. Actual CLEC Loop Facilities Buildings Satisfying FCC Triggers | | |
|---|---|---|
| **Trigger** | **ILEC claim** | **QSI finding** |
| Self-provisioning, DS-3 | 954 | 130 |
| Dark Fiber | 954 | 0 |
| Wholesale DS-3 | 719 | 49 |
| Wholesale DS-1 | 724 | 36 |
| Source: QSI Consulting, Inc., "Analysis of State Specific Loop and Transport Data, October, 2004, at 11-16. | | |

8. While the RBOCs all allude to the high concentration of enterprise customers in a relatively small number of wire centers located in the largest MSAs, they ignore the fact that the vast majority of those enterprise customers – even those located in areas of the greatest concentration of demand – fall well within the "less than three DS-3s" category. More generally, the RBOCs' "analyses" all fail to address the fact that "enterprise" customers fall into numerous separate market segments, ranging from relatively small, single-location firms with perhaps as few as a dozen employees, up to and including multibillion dollar, geographically dispersed entities with a total workforce numbering in the hundreds of thousands. Instead, they erroneously and simplistically treat all "enterprise" customers as falling within a single homogeneous market, both with respect to *location* and with respect to the specific services and service volumes being purchased.

9. The telecommunications requirements of the vast majority of individual *customers* and at the vast majority of individual customer locations is substantially less than three DS-3s – in fact, it is predominantly at the DS-1 level (1.544 Mbps) or less – a critically important market *fact* that none of the RBOCs' maps address or reveal. Verizon and Qwest do, however, acknowledge the preponderance of DS-1 level customers. Verizon concedes that "[t]he majority of the high capacity loops that are purchases [sic] as special access are DS-1s." Similarly, Qwest admits that 18,267, or 98.4%, of the special access circuits that CLECs have purchased from Qwest in the Denver MSA are DS-1s, and that only 296 are DS-3s. Qwest does not indicate how many, if any, of those 296 DS-3s involve installations of three or more DS-3s at the same customer location – the minimum service level at which the Commission had found CLEC deployment of fiber facilities to be economically feasible. For the segment of the enterprise market where the Commission had found little or no CLEC fiber deployment – i.e., below three DS-3s – CLEC dependence upon ILEC high-capacity network facilities is near-absolute. Indeed, there is no possibility that a self-provisioned DS-1 loop is likely to be economic.

10. The RBOCs ask the Commission to overlook the fact that the designation of "enterprise" embraces a broad range of customers with widely varying demand and geographic attributes, and to

treat all "enterprise" customers as constituting a single homogeneous market. In fact, these key customer attributes – size and location – are central to a CLEC's ability to profitably provide service without access to UNEs. In the *TRO* the Commission determined that CLEC self-provisioning of loop facilities was feasible only where revenues at each specific customer location (building) were sufficient, and established a minimum capacity threshold of three DS-3s as a revenue surrogate. But the actual cost of extending CLEC facilities to specific customer locations is itself heavily dependent upon the physical proximity of such location to other CLEC facilities. The three DS-3 threshold must thus be viewed as a minimally *necessary* condition for self-deployment, but certainly not as a *sufficient* condition because, where the physical distance between the customer and existing CLEC facilities is large, the minimum economic revenue (and capacity demand) threshold will be considerably higher.

***Transport***

11. The RBOCs' transport story likewise fails to differentiate by capacity and also relies upon a complete mischaracterization of the relevant facilities and network architectures. CLECs do not maintain switching and other network facilities at each RBOC wire center. Instead, their networks are designed so as to concentrate these functions at one, or at most a small number, of locations within each market area in which they provide service. A CLEC thus must *extend* the subscriber loop facilities it obtains from the RBOC (whether as a UNE or as special access) to its network via interoffice transport facilities either deployed by the CLEC itself, obtained from other CLECs whose facilities are capable of providing connectivity over the required route, or from the RBOC. In the *TRO*, the Commission had determined that self-provisioning could not be economically justified unless the CLEC's capacity requirement was greater than twelve DS-3s over each specific point-to-point transport route, and found that CLECs would be impaired without access to unbundled interoffice transport with respect to traffic requirements of twelve DS-3s or less, or where there were less than two other CLECs offering wholesale interoffice transport over the specific point-to-point route.

12. The RBOCs now argue that CLECs always have alternatives to unbundled transport, and that as such they are not impaired if the availability of these facilities as UNEs is withdrawn. According to Verizon, "when competitive fiber is present in a given wire center, it almost always connects to the CLEC's own fiber network, or the fiber network of another competing provider, and can therefore be used to reach any other wire center that also is reached by those competitive networks." In making this claim, Verizon would have the Commission believe that *all* of the interoffice facilities owned by *all* of the CLECs serving a given MSA have been merged into a single, integrated network "cloud" such that connectivity to any one point within the "cloud" provides connectivity to every point within the "cloud." Verizon ignores that fact that CLEC interoffice networks are designed primarily, if not exclusively, for the limited purpose of *extending individual subscriber loops from the ILEC wire center at which they terminate to the CLEC's network hub and then to its service node or POP.* The anywhere-to-anywhere functionality being

portrayed by the RBOCs may precisely describe the PSTN, *but has nothing whatsoever to do with the fiber backbones that CLECs have constructed*. Functionally, CLEC networks are of the "hub and spoke" or "star" design, providing redundant point-to-point connectivity from each of the individual ILEC end offices where the CLEC has fiber-based collocations to the CLEC network hub. There is no requirement (nor economic justification) for interconnection *between or among* an individual competitor's fiber-based collocations, and there is certainly no connectivity *between* all of the different CLECs' respective networks. Other than their fictitious and disingenuous mischaracterizations of the architecture, functionality, and connectivity of and among CLEC networks, the RBOCs have advanced no concrete evidence that would undermine the Commission's national finding of impairment on any point-to-point interoffice route with a transport requirement of twelve DS-3s or less. There is no scenario under which transport at the DS-1 level would ever be economic for a CLEC to self-provide.

***Use of "special access" as an alternative to UNEs***

13. The second prong of the RBOCs' claim is that at all locations where CLECs are dependent upon ILEC high capacity facilities to reach specific enterprise customers, i.e., at the DS-level capacities at issue in this proceeding, those facilities are available to the CLEC as "special access" services. The RBOCs ask the Commission to conclude that, since CLECs are *using* special access to serve customers *today*, it must follow that they are doing so "successfully" and thus are not "impaired" without access to UNEs. Importantly – and overlooked entirely by the RBOCs – is the fact that the *USTA II* Court's observation as to the ability of competition to "flourish" without access to UNEs is specifically confined to the *wireless* market where, unlike the situation for wireline services, special access costs represent a tiny fraction of wireless carriers' total operating costs. For CLECs, however, special access payments to the RBOCs may represent half of all current operating expenses. The risk of competition-foreclosing price squeezes in the new market structure in which RBOCs are themselves competing aggressively for retail enterprise business is thus all too real.

14. For 2003, the four RBOCs reported an average rate of return on interstate special access services of 43.7%, with all but Verizon reporting earnings topping 60%. Qwest, for example, which had reported special access earnings of 68.1% for 2003, has already implemented two separate – and substantial – rate hikes in 2004. The RBOCs clearly *are* "able drastically to hike [special access] rates," and have been repeatedly doing just that – and on multiple occasions. The evidence being advanced by the RBOCs as to the *existence* of CLEC customers being served via special access in no way establishes that CLECs are doing so "successfully" or that they will continue to be able profitably to serve enterprise customers in this manner in retail competition with the RBOCs that do not make cash out-of-pocket payments at the exorbitant special access prices. No inference can be drawn from the entirely *static* "snapshot" of *current* CLEC customers being portrayed by the RBOCs as to the state of CLEC market conditions going forward. Many current CLEC customers are subject to term contracts that had been established prior to the RBOCs' recent entry into

interLATA enterprise markets and prior to the multiple rounds of special access price increases. It is far from certain as to how many of these contracts will be renewed once these customers are "up for grabs" by the RBOCs, especially if CLECs are forced to increase their retail prices in response to the special access rate increases, further eliminating potential customers that could profitably be served if hicap facilities were available to CLECs.

15. The Commission has previously observed that "forcing requesting carriers to rely on tariffed offerings would place too much control in the hands of the incumbent LECs, which could subsequently alter their tariffs and thereby engage in a vertical price squeeze." In fact, such price squeezes are precisely what is taking place in the market. Forcing CLECs to pay above-cost prices for essential network elements impairs their ability profitably to serve customers that could be profitably served if the "last mile" facilities were available as UNEs at cost-based rates. Special access services are not effectively regulated – indeed, they are priced well above economic cost even where still subject to price cap regulation and, since most special access rates are subject to "pricing flexibility," they may be – and are regularly being – increased, often by a substantial amount. The RBOCs can thus foreclose competition at any time through a classic "price squeeze." AT&T has demonstrated that there are business services that it has ceased to offer in light of the special access prices that the RBOCs charge, and that for many other services such as private line service and Frame Relay, the RBOCs have set special access and retail prices at levels that do not allow AT&T or any other efficient carrier to compete for many customer segments on a going-forward basis. The *USTA II* court expressly recognized that relegating competitive carriers to special access would potentially subject those carriers to debilitating price squeezes and the burdens that this possibility imposed on the Commission could be sufficiently high that the administrative costs of accounting for special access in the impairment inquiry outweighed any benefit. This is clearly the case here. It is simply not administratively feasible for the Commission to adjust its impairment inquiry "on the fly" to account for whether the RBOCs are engaging in competition foreclosure. There are simply too many ways in which the RBOCs can price squeeze rivals. Indeed, the very possibility of such conduct on the part of the RBOCs will itself operate to impair competitors' ability to attract capital where the risk of anticompetitive responses by the RBOCs could be seen as foreclosing investors' ability to recover their investments in CLEC ventures.

***Conclusion***

16. In the *TRO*, the Commission recognized the substantial variation confronting CLECs in the economics of serving enterprise customers at different capacity levels, and addressed those concerns by making national findings that CLECs are generally impaired without access to UNEs when providing service to customers at capacity levels below three DS-3s and for interoffice transport facilities at capacity levels at or below twelve DS-3s. The RBOCs' "evidence" fails to differentiate among the various capacity-based segments of the enterprise market, and thus fails to address – let alone challenge – these critically important *TRO* conclusions. Virtually all instances of CLEC fiber connections to customer premises is at the OCn level; even where CLEC fiber passes near or even

directly in front of a building where the customer demand falls below that threshold, the costs of bringing the fiber into the building cannot be justified. The RBOCs' claims as to non-impairment with respect to interoffice transport rely entirely on an utterly fanciful portrayal of ubiquitously interconnected but entirely fictitious CLEC fiber backbone networks. Finally, the RBOCs' claims as to the suitability of special access as a substitute for UNE loop and transport facilities ignores the fact that special access services are not subject to competition or effective rate regulation, are priced well in excess of forward-looking economic cost, may be and are being increased at the whim of the RBOCs, and have created persistent price squeeze conditions that have forced CLECs to abandon large segments of the enterprise market. None of the "evidence" proffered by the RBOCs undermines the Commission's original *TRO* determinations, and those impairment findings should be maintained in the permanent rules that the Commission adopts.

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DECLARATION OF LEE L. SELWYN

## INTRODUCTION

Lee L. Selwyn, of lawful age, declares and says as follows:

17. My name is Lee L. Selwyn; I am President of Economics and Technology, Inc. ("ETI"), Two Center Plaza, Suite 400, Boston, Massachusetts 02108. ETI is a research and consulting firm specializing in telecommunications and public utility regulation and public policy. I have participated in numerous proceedings before the Federal Communications Commission ("FCC" or "Commission") dating back to 1967 and have appeared as an expert witness in hundreds of state proceedings before more than forty state public utility commissions. My Statement of Qualifications is annexed hereto as Attachment 1 and is made a part hereof.

18. I have been asked by AT&T to respond to certain *ex parte* materials submitted by Verizon, SBC, Qwest and BellSouth pertaining to interim and permanent unbundling requirements arising from the March 2, 2004 ruling by the United States Court of Appeals for the District of Columbia Circuit in *USTA v. FCC* ("*USTA II*") pertaining to the Commission's *Triennial Review Order* ("*TRO*"), and to address certain other factual issues raised by the Commission's August 20, 2004 *Order and Notice of Proposed Rulemaking* in the above-captioned matter.

## OVERVIEW OF ECONOMIC IMPAIRMENT ANALYSIS REQUIREMENTS

### Fundamental principles of loop and transport impairment analysis

19. So-called "enterprise" customers generally consist of nonresidential (i.e., business, institutional, government) telecommunications users having a requirement for multiple voice access lines and/or for any of several varieties of data communications at a single premises.[1] To provide service to an enterprise customer, a CLEC requires a physical telecommunications path between the CLEC's network and the customer's premises. Such connectivity generally consists of "last mile" facilities (usually referred to as a "subscriber loop") terminating at the designated customer premises, and "transport" facilities linking the subscriber loop with the CLEC's network facilities. While some type of subscriber loop and transport facility is involved in furnishing service to virtually any type of customer, the nature of the facilities involved in serving individual customers varies across a broad range of capacities and technologies. All of these are encompassed within the scope of the "enterprise market," but that "market" is anything but homogeneous, exhibiting enormous breadth both respect to *product* and *geography*.

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1. In the *Triennial Review Order*, the Commission defined the enterprise market as "a business customer market of typically medium to large businesses with a high demand for a variety of sophisticated telecommunications services." It added that "high capacity loops, DS1 to OCn, are generally provisioned to enterprise customers." *Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket No. 01-338; *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-989; *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, FCC No. 03-36, rel. Aug. 21, 2003 ("*Triennial Review Order*" or "*TRO*"), at fn. 624.

20. The nature and extent of competition in the "enterprise market" is also anything but homogeneous, in large part because the economics of competitive entry vary widely across the different geographic and product market segments. Indeed, the Commission reached precisely this conclusion in the *TRO*,[2] where it specifically identified distinctions as between the loop and transport markets and, within each, identified only limited, specific situations in which the development of facilities-based competition ("bypass") has been shown to be economically feasible. Subsequent analyses by state PUCs and by others confirm the Commission's *TRO* findings. In advancing their "no impairment" claims, the RBOCs present little more than a static "snapshot" of what they claim to be the facilities-based competition that is present in certain limited product and geographic markets, and based upon such limited data, ask the Commission to *infer*, from the presence of such limited facilities-based competition in limited geographic areas at the very highest capacity ranges, that such competition exists or can be presumed to exist ubiquitously across the entire enterprise market.

21. But rational analysis of high-cap loop and transport impairment requires recognition of some basic marketplace and economic realities that the RBOCs ignore:

(1) *Disaggregation of impairment determinations by circuit capacity.* The majority of the costs of deploying loop or transport facilities are driven by the total *distance* involved, and are largely unaffected by the transmission capacity of the facility being constructed.

2. *Id.*, at paras. 201 and 202.

Indeed, the only specific *capacity-sensitive* costs are those for the physical transmission medium itself (such as fiber optic cable) and associated electronics. It costs no more to dig a trench, place new conduit or occupy existing conduit, or incur makeready and recurring costs for pole attachments for a 48-strand fiber cable than for a 4-strand fiber cable. Thus, when expressed in terms of the cost per unit of transmission capacity, it is far more expensive to construct loop or transport facilities where the capacity requirement is small than where it is large, or where the distance to be traversed is long rather than short. ILECs confront similar economics of outside plant deployment, but unlike CLECs, ILECs begin with an enormously larger customer base and considerably shorter distances between their customers and their switches, and are thus far more capable of spreading those fixed, non-capacity-sensitive costs across far greater capacity builds than can a CLEC. For these reasons, it is absolutely critical, as the Commission has recognized, that analyses of self-deployment economics differentiate by capacity – it is simply irrational to infer from OCn-level deployment that DSn-level deployment is economically feasible.

(2) *Recognition of point-to-point, route-specific markets, with aggregation only to the extent that it can be demonstrated that the point-to-point markets in question reflect sufficiently similar competitive characteristics, including building access, rights of way and other key factors.* The Commission has recognized, correctly, that CLEC deployment of loop and transport facilities can only be practical where revenues are adequate to provide for cost recovery. However, while the minimum capacity levels

that the Commission has adopted may provide an indicia of this minimally necessary condition, that indicia is not by itself sufficient to establish non-impairment. While individual projects are subject to widely varying cost conditions arising from location, building access, proximity to an existing network access point (i.e., a physical location on the CLEC's fiber backbone where a connection can be accomplished), and other construction-related considerations, these impediments are more readily and consistently overcome where the overall capacity requirement (and hence revenue expectation) is relatively high. Even so, there are situations in which the impediment cannot be overcome under any circumstances, such as those cases where (1) the customer's location is too remote (or two ILEC offices are too far apart) and it is too expensive to build a new facility for even a very high amount of demand; (2) a competitor cannot get the municipal permissions necessary to construct a facility, (3) a building owner refuses to permit the CLEC to deploy facilities within the building, or (4) a customer declines to allow a competitor to transfer its traffic to competitive facilities, unambiguously impairing the CLEC's ability to compete without access to the ILEC's facilities. There is no basis for inferring that deployment of CLEC-owned facilities at a particular customer location is economically feasible or practical merely due to the presence of CLEC-owned facilities "nearby." Even the establishment of minimum threshold conditions for a finding of non-impairment (e.g., three DS-3s) may not be sufficient to assure that CLECs will be able to obtain UNE facilities where no competitive alternative is possible. In that regard, the three DS-3 and twelve DS-3 thresholds that the Commission has established substantially *over-predict* the instances

where alternatives to RBOC facilities would be available. At best, the three DS-3 and twelve DS-3 thresholds recognize a minimum *necessary* condition for self-deployment, although in no sense establishing the *sufficiency* of the threshold in assuring that non-impairment actually exists.

(3) *Strict focus upon market dynamics and upon present and expected future market characteristics, rather than upon static "snapshots" of existing or past conditions*. The prevailing state of competitive facilities deployment and competitive presence reliant upon special access – the only factual matters addressed in the various RBOC *ex parte* filings – represent at best the *cumulative* effects of conditions that have existed in the past, whose existence – given the fundamental changes in market structure and market dynamics – do not support inferences as to the viability of such competition going forward. As an initial matter, much of the facilities deployment that has taken place was undertaken by companies that have subsequently gone into bankruptcy or gone out of business altogether. The existence of such facilities provides no basis for *any* inference as to the economic feasibility or business case merit of similar investments going forward. Indeed, in a rational market, those are the very type of *uneconomic results* that should be discouraged, rather than seen as opportunities for additional investment. Second, the special access services that ILECs have furnished to competitors were initially provided by the RBOC prior to the RBOC's recent entry into the enterprise long distance markets, at a time that the RBOC was not competing for the long distance revenue that was available to the competitor to help defray the cost of the

> special access service. Going forward, RBOCs compete in all aspects of their wireline competitors' business, and their ability to impose input costs on their competitors that are significantly higher than their own costs for comparable network functionality simply operates to increase competitors' costs while facilitating *and financially supporting* the RBOCs' efforts to price-squeeze their rivals. Especially in light of the changed structural conditions in enterprise long distance markets after RBOC entry, the existence of non-ILEC carriers competing via special access provides no basis for an inference of non-impairment going forward.

The Commission's *TRO* analysis largely – and laudably – conformed with these core principles in reaching its conclusions (I) that competitive self-deployment is uneconomic below certain DS-3 thresholds; (ii) that given obvious differences in relevant competitive conditions a route-by-route analysis is most appropriate, especially given the capacity limits on UNE availability; and (iii) that the availability of special access at rates that are constrained by neither competition nor regulation does not remove impairment. Verizon *et al* now urge the Commission to jettison that reasoned analysis in favor of new analyses that ignore each of these fundamental principles.

**The extremely limited scope of the RBOC analyses.**

22. The RBOCs' analyses are generally limited to the largest wire centers in the largest Metropolitan Statistical Areas ("MSAs") in their respective footprints. And, as noted, even in these limited geographic areas, the RBOCs make no distinction between OCn and DSn-level

loop or transport facilities. From this extremely limited and highly aggregated data, the RBOCs ask the Commission to *infer* the existence of CLEC alternatives across all enterprise market segments – capacity levels and geographic location – notwithstanding the fact that such limited CLEC facilities as do exist are confined almost entirely to the highest capacity services in extremely confined areas of high business concentration. The RBOCs' studies and data treat end user locations and interoffice transport routes as presenting similar costs and provisioning requirements, and conceal the critically important capacity- location- and route-specific distinctions that the Commission identified and addressed in the *TRO*.

23. In addition, the RBOCs present what can at best be described as entirely *static* evidence as to the *current* state of competition in the enterprise market, thereby ignoring key regulatory and capital market conditions that invalidate any inferences derived from existing conditions as to the levels of competition that can be expected to exist going forward. For these reasons, even if the RBOCs' data were accurate in all respects, those data could not support the extraordinarily broad conclusions that the RBOCs urge.

***Most of the relevant DSn-level loop and transport demand is NOT concentrated in a few very urban wire centers, and experience in those atypical highly urban areas could not support findings of non-impairment in other very different geographic areas.***

24. Verizon states that "more than *80 percent* of the demand for high-capacity special access services in Verizon's region is concentrated in fewer than *8 percent* of its wire centers (or 532 out of 6,900 total)" and that "more than *three quarters* of the 532 wire centers where demand

is concentrated are located in only the 20 MSAs in Verizon's serving area with the largest amount of high-capacity demand."[3] Verizon appears to have based its measurement of "demand" upon circuit capacity expressed as DS-0 or DS-1 equivalents, rather than, for example, in terms of the *revenues* being derived from the "8 percent" of Verizon's wire centers. Prices of high-capacity services are not proportionate to circuit capacity. For example, an OC-12 facility, which is equivalent to 8,064 voice-grade (DS-0) channels or 336 DS-1s, yet carries a price that is typically priced at only about 40 times that of a single DS-1. Because the incidence of the highest capacity services occurs disproportionately in the more densely populated areas, a capacity-based measure exaggerates the actual extent to which *revenues* from the enterprise market are distributed within and outside of the top-20 Verizon MSAs. Moreover, only DSn-level facilities are at issue in this proceeding, and weighting the data with the prevalence of OCn-level service in the largest wire centers masks the marketplace reality that CLECs' need for DSn-level facilities is not concentrated in a few wire centers, but is instead spread nationwide. As an example, AT&T Declarant Joseph Stith notes that some 36% of AT&T's payments to Verizon for loop and transport services for the month of June 2004 were for DS-1 and DS-3 facilities located *outside of Verizon's top-20 MSAs*.[4]

3. *Competing Providers Are Successfully Providing High-Capacity Services to Customers Without Using Unbundled Elements*, *Ex Parte* Submission of Verizon Communications in CC Docket Nos. 01-338, 96-98, 98-147, filed July 2, 2004 ("*Verizon July 2, 2004 ex parte*"), at 6.

4. Declaration of M. Joseph Stith on behalf of AT&T Corp. ("*Stith Declaration*"), at para. 23.

25. To the extent that Verizon is suggesting that CLEC competition is confined primarily to the largest MSAs, its data would then also indicate that some 94.2%, i.e., about 6,500, of Verizon's 6,900 wire centers are either not in the 20 largest MSAs at all, or are not among the high-demand wire centers within those 20 largest MSAs. Verizon claims that "in the MSAs that it studied" it had "identified more than 480 wire centers in which two or more CLECs had likely self-provisioned high-capacity transport"[5] No information whatsoever is provided with respect to the other MSAs and the non-MSA areas that Verizon did not study either with respect to the extent to which CLECs have deployed fiber or the extent to which CLECs are currently providing service using special access.

26. Even if Verizon were correct that CLEC use of special access in the high-density wire centers suggested no impairment in those areas studied by Verizon, it does not follow that there is lack of impairment as to the remainder of Verizon's – and the other RBOCs' – serving areas.

***Aggregate data from the top 20 MSAs conceals critical point-to-point and location-specific conditions, and provides no basis for any generalized non-impairment conclusions that would be applicable for point-to-point and location-specific markets.***

27. On close examination, the RBOCs' MSA maps actually provide very little relevant information, and what information they do offer is undocumented, unverifiable, and wrong. CLEC fiber routes identified on the maps are not differentiated as between loop and transport,

5. *Verizon July 2, 2004 ex parte*, Declaration of Judy K. Verses *et al*, at paras. 9, 11.

nor are specific CLEC networks separately specified. Maps purporting to show locations of "lit" buildings and of locations where the CLEC is presumed to be serving customers using RBOC special access provide no information as to the type of service or the capacity level being provided. None of the RBOC maps identify or document any actual specific CLEC transport routes, preferring instead to posit their existence from utterly baseless assumptions as to how CLEC fiber networks are designed and operated. What the RBOC maps do reveal is that CLECs are dependent upon RBOC facilities at the vast majority of the CLECs' enterprise customer locations – even at locations that are proximate to CLEC fiber. But because the RBOCs fail to identify and analyze the enterprise market segment-by-segment and route-by-route as the Commission had done in the *Triennial Review* itself, they offer no explanations for the conditions that their own maps reveal, preferring instead to make the leap to an assertion of non-impairment in all cases.

28. As I and other AT&T witnesses discuss, the proximity of a customer location to CLEC fiber provides no basis to assume that such a customer can profitably be served using CLEC facilities. Similarly, the presence of CLEC fiber and associated equipment in a given pair of RBOC wire centers – and not necessarily the same CLEC in both places – provides no basis for the RBOCs' assumption that transport between those two wire centers entirely by means of CLEC facilities is always "possible" as they contend.

***Under no realistic circumstances could CLECs be said to be "flourishing," and evidence of fiber deployed during the "telecom bubble" cannot be credited as evidence that such self-deployment is economic.***

29. The kind of static "snapshot" of the current state of fiber deployment being advanced here by Verizon and the other RBOCs as a statistic from which the Commission can extrapolate even greater deployment is fundamentally misguided. At best, the competitive situation described by Verizon and relied upon as a showing of "competitive" entry can be said to present a *static* picture of cumulative CLEC fiber deployment that has taken place over the past eight years. The same NPRG *CLEC Report 2004* that Verizon has relied upon for its static analysis details a more important aspect of the current state of CLEC activity – one that Verizon has chosen to ignore altogether. The vast majority of the CLEC network development to which Verizon refers was constructed in the late 1990s through 2001, a time during which CLECs had seemingly limitless access to capital. But following 2001, the amount of capital available to CLECs for network investment and development has all but dried up (see Figure 1). Figure 2 presents this same data on a cumulative basis, indicating that 88.9% of the total new CLEC investment that occurred since 1996 had been completed by the end of 2001.

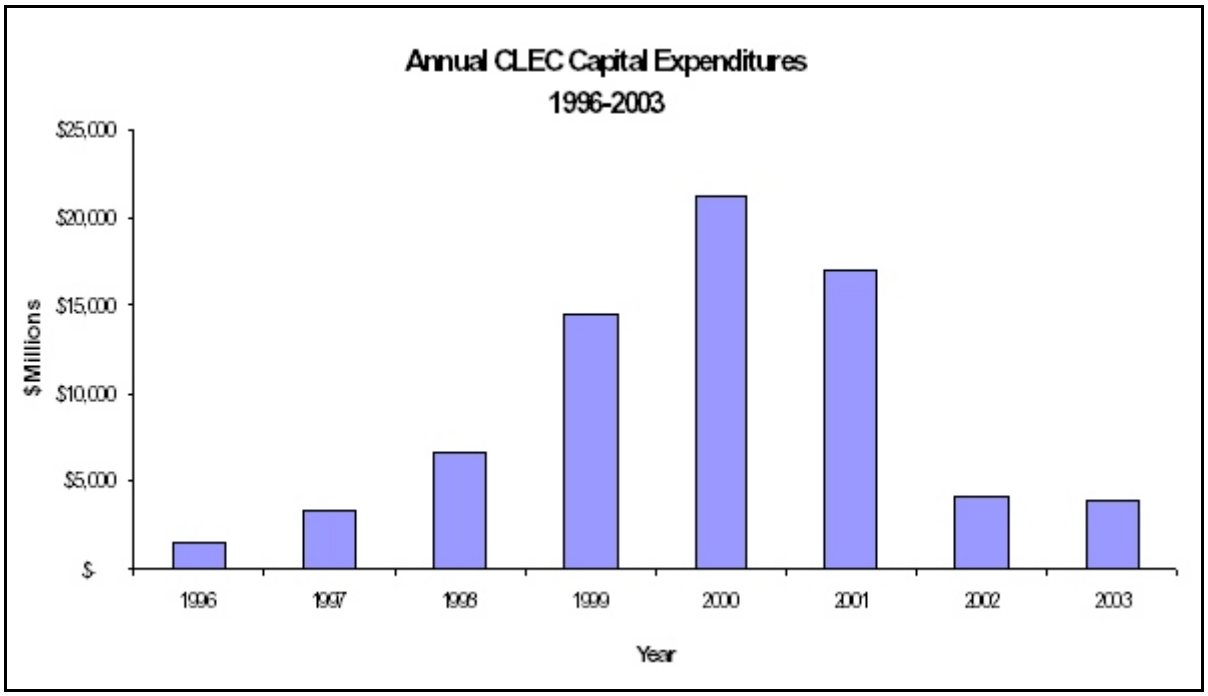


**Figure 1.** Following 2001, the amount of capital available to CLECs for network investment and development has all but dried up.

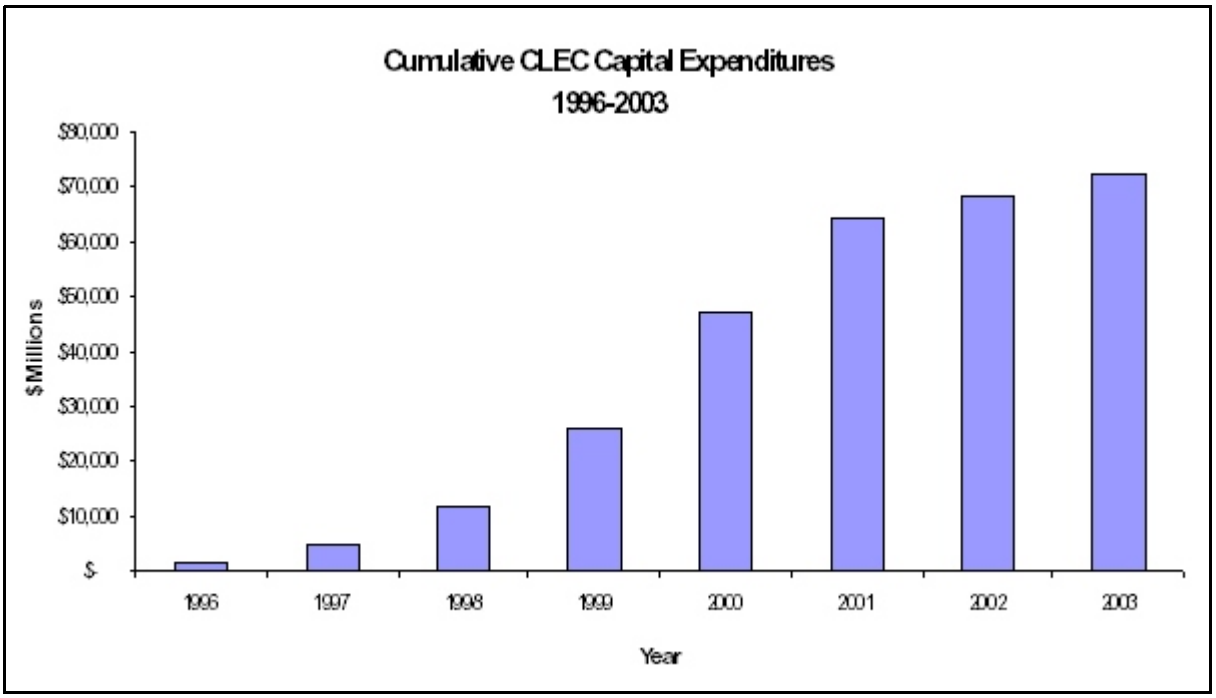


**Figure 2.** 88.9% of the total new CLEC investment that occurred since 1996 had been completed by the end of 2001.

30. Today, of course, there is little or no new CLEC investment, and many CLECs are now struggling to stay out of bankruptcy (see Table A2--2 in Attachment 2). Indeed, very few CLECs have increased their route miles of fiber or number of "on-net" buildings (see Table A2-3 and Table A2-4 in Attachment 2), confirming the extremely low supply elasticity characteristic of CLEC facilities, thus posing no serious competitive challenge to the incumbent RBOCs.

31. Since the beginning of 2001, some 48 CLECs have sought bankruptcy protection under Chapter 11 or have been shut down or liquidated.[6] Of these, 26 were publicly-traded companies

6. New Paradigm Research Group ("NPRG"), *CLEC Report 2004*. NPRG reports that 47 (continued...)

representing more than $65-billion in assets at the time of their bankruptcy filings (see Table A3-5 in Attachment 2). While some of these companies have since come out of bankruptcy, unused facilities and inflated investment valuations have resulted in a net economic loss of roughly $50-billion (see Table A2-6 in Attachment 2). Investors are not likely to repeat their mistakes anytime soon and, as such, the prospect of any major CLEC reentry after having been price-squeezed out of the market seems remote at best.

32. Incredibly, the RBOCs are asking that all of this be ignored entirely, and that only a current "snapshot" of superficial customer activity be dispositive of the "impairment" issue. But a single snapshot obscures trends and other industry dynamics, conditions that clearly do not support the RBOCs' "non-impairment" contentions. It is, however, these unmistakable trends and industry dynamics that must drive the policymaking process, not the isolated portrays that the RBOCs have advanced.

6. (...continued)
CLECs have filed bankruptcy since January 2001 (see *CLEC Report 2004*, Chapter 2, at 1). Since the time of the *Report*'s release, ATX/CoreComm has also filed for bankruptcy.

**DSn LOOPS**

**The RBOC loop data**

33. The RBOCs have proffered studies that purport to demonstrate what they seek to describe as extensive deployment of fiber facilities by CLECs to serve end-user customers. Generally, the RBOC material is of two types:

(1) Maps and data depicting CLEC fiber optic facilities and "lit" end user buildings in the largest MSAs within the RBOCs' respective footprints;[7] and

(2) Aggregate data identifying the total number of buildings currently "lit" by CLEC-owned facilities, separately for each of the largest CLECs.[8]

7. *Competing Providers Are Successfully Providing High-Capacity Services to Customers Without Using Unbundled Elements*, *Ex Parte* Submission of Verizon Communications in CC Docket Nos. 01-338, 96-98, 98-147, filed July 2, 2004 ("*Verizon July 2, 2004 ex parte*"); *Lessons Learned in State TRO Proceedings*, *Ex Parte* Submission of BellSouth in CC Docket No. 01-338, filed August 18, 2004 ("*BellSouth August 18, 2004 ex parte*"); *Ex Parte* Submission of Qwest in CC Docket Nos. 01-338, 96-98, and 98-147, filed August 19, 2004 ("*Qwest August 19, 2004 ex parte*"); *Ex Parte* Submission of SBC in CC Docket No. 01-138, 96-98, and 98-147, filed August 18, 2004 ("*SBC August 18, 2004 ex parte*").

8. *Id.*

**The RBOCs' studies and data do not distinguish among the various segments of the enterprise market.**

34. In their various *ex parte* filings, Verizon, SBC and Qwest have each provided maps of several major MSAs within each of their respective regions purporting to identify the specific buildings at which CLECs are claimed to have deployed fiber loop facilities. In none of the cases being proffered by the RBOCs is there any indication as to the capacity level that is being provided over these claimed CLEC-owned facilities. Significantly, however, Verizon concedes that "[t]he majority of the high capacity loops that are purchases [sic] as special access are DS-1s."[9] Similarly, Qwest admits that 18,267, or 98.4%, of the special access circuits CLECs have purchased from Qwest in the Denver MSA are DS-1s, and that only 296 are DS-3s.[10] Qwest does not indicate how many, if any, of those 296 DS-3s involve installations of three or more DS-3s at the same customer location – the minimum service level at which the Commission had found CLEC deployment of fiber facilities to be economically feasible. And according to BellSouth, in Florida *alone* "approximately 40,000 DS1 lines ... [are being] purchased by CLECs to serve end users."[11] Hence, the RBOC data actually supports and confirms the Commission's overarching determination that CLECs are not deploying fiber where the customer demand is for DS-1

9. *Verizon July 2, 2004 ex parte*, Attachment 1, Declaration of Judy K. Verses *et al*, at para. 48.

10. *Qwest August 19, 2004 ex parte*, at 3.

11. *BellSouth August 18, 2004 ex parte*, at 4.

service, and that "[w]hen competitive LECs self-deploy fiber they predominantly do so at the OCn-level."

35. Citing the Commission's *Triennial Review Order* ("*TRO*"), at paras. 370 and 398, Verizon states that "[t]he Commission has previously acknowledged that competing providers 'have deployed significant amounts of fiber transport facilities to serve local markets.'"[12] But Verizon conveniently fails to mention that elsewhere in the *TRO*, at paras. 298-310, the Commission specifically notes that, based upon record evidence, CLECs have predominately deployed fiber *loop* facilities only in those customer locations where the capacity being demanded is at the OCn level:

> The record contains a wealth of evidence to inform our enterprise market loop analyses. ... When competitive LECs self-deploy fiber they predominantly do so at the OCn-level. ... In contrast, the record contains little evidence of self-deployment, or availability from alternative providers, for DS1 loops. As for DS3 loops, evidence of self-deployment and wholesale availability is somewhat greater than for DS1s and is directly related to location-specific criteria. Indeed, competitive LECs agree that at a three DS3 loop capacity level of demand, it is economically feasible to self-deploy, and record evidence reveals that both AT&T and WorldCom have self-provisioned DS3 circuits to many customer locations.[13]

The Commission identified several *specific barriers* to CLEC facilities deployment, and on that basis found that, at a national level, CLECs generally would be impaired without access to UNEs

12. *Verizon July 2, 2004 ex parte*, at 9.

13. *TRO*, 18 FCC Rcd 17156-17157, at para. 298.

for dark fiber, DS-1 loops, and for less than three DS-3 loops provided to the same customer location:

> In conducting our impairment analysis, we give substantial weight to the cost of constructing a loop facility in relation to the ability of the competitive carrier to recover those costs over time, *i.e.*, where the traffic volume and associated revenue potential from the loop facility allow a carrier to earn a return necessary to sustain its operations at that location. We do, however, consider other factors affecting competitive LEC loop deployment, including access to public and private rights-of-way and multiunit premises access, that incumbent LECs have not or do not similarly face as a result of their first-mover advantage. Altogether, these factors directly influence the ability of competitive carriers to raise capital to deploy service to customers using their own loop facilities in a timely manner. ...[14]

These and related findings and conclusions reached by the Commission in the *TRO* specifically *and correctly* recognize the economic distinctions that must be made, not only among the different product markets (i.e., mass market vs. enterprise markets vs. wholesale market), but also among enterprise customers with different capacity requirements and at different locations. With respect to customer location, the Commission specifically found that:

> ... the extent of competitive deployment of high-capacity loop facilities can vary tremendously by geographic area. More specifically, the barriers to entry requesting carriers face are most precisely identified *on each geographic route serving a particular customer location*. ...[15]

14. *Id.*, at para. 306.

15. *Id.*, at para. 307, emphasis supplied.

While certainly voluminous, the RBOCs' evidence nowhere identifies the specific type of service or capacity level being provided by the CLEC to its customers at each customer location. Clearly, Verizon's attempt to lump all varieties of services, customer types, and geographic locations into the same "soup" whose only commonality is that all involve some type of "high capacity"[16] last-mile connection to the customer's premises does not square with the Commission's detailed analyses and determinations to the contrary – an analysis to which neither Verizon nor its sister RBOCs have advanced any credible rebuttal.

**RBOC claims of facilities-based CLEC loop competition are rooted in irrelevant, overstated and flawed CLEC data.**

***CLEC building counts are severely overstated***

36. Verizon and SBC both rely upon data obtained from GeoResults as the basis for their information on CLEC fiber deployment. Both indicate that GeoResults, in turn, obtained some of its input data from the Telcordia Central On-Line Entry System ("CLONES") database,[17] and have, apparently, taken as a given that the CLONES database is accurate. It is not.

16. The term "high capacity" or "hicap" generally refers to digital services at the DS-1 (T-1) level or higher, supporting a data transmission rate of no less than 1.544 megabits per second, equivalent to 24 voice-grade DS-0 (64 kbps) digital channels.

17. *Verizon July 2, 2004 ex parte*, at 13; *SBC August 18, 2004 ex parte*, at 3.

37. As AT&T declarant Jeffrey D. Beemon explains, this data source contains substantial amounts of out-of-date and obsolete records referring to equipment and locations that are no longer in service, so reliance upon it as a basis for quantifying the extent of CLEC market presence – and for identifying the specific locations at which CLECs have deployed facilities – will necessarily produce vastly overstated results. According to Mr. Beemon, AT&T had 652,036 CLLI codes in the CLONES database as of July 1, 2004, but "259,745 of these codes, comprising approximately forty percent of the total number of AT&T's CLLI codes in the CLONES database and spread across 131,309 building addresses, are no longer active."[18] Mr. Beemon indicated that he

> believe[s] that other carriers' CLLI code and customer address information in the CLONES database is also likely to contain significant inaccuracies. While customer locations inevitably change over time, carriers have relatively few incentives to engage in the lengthy process of removing outdated information from the CLONES database for the reasons described above. I also understand from working with Telcordia on the procedures to remove AT&T's outdated codes from the CLONES database that no other carrier has undertaken a similar effort to remove large numbers of outdated codes.[19]

Mr. Beemon also notes that "the information available to other users [of CLONES] provides no information on the level of service serving the location (i.e., DS0, DS1, DS3, OC-3, and above),

18. Declaration of Jeffrey D. Beemon on behalf of AT&T Corp. ("Beemon Declaration"), at para. 6.

19. *Id*., at para. 9.

or whether that service is provided via CLEC-owned fiber or via ILEC special access services."[20] It is apparent that none of the RBOC data that is based upon input from the Telcordia database can be taken at face value.

38. In addition to overstating AT&T(and probably other carrier) data for the specific markets reflected on its MSA maps, it appears that Verizon has also exaggerated the aggregate counts of facilities of many other CLECs that it is provided. Verizon claims that, within each of the overly broad MSA market areas it has posited in its July 2, 2004 *ex parte* filing, "competing providers have deployed [extensive fiber networks that] are capable of and being used to provide high-capacity loops to buildings in which there is concentrated demand for high-capacity services."[21] Verizon then boldly asserts that "wherever there is demand for high-capacity services, competing providers can and are serving customers without unbundled elements."[22]

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20. *Id.*, at para. 4.

21. *Verizon July 2, 2004 ex parte*, at 12.

22. *Id.*, at 1. Careful parsing of this statement reveals the utter vacancy of Verizon's claims. First, Verizon has not identified all locations "where[] there is demand for high-capacity services," but only those specific locations that are putatively being served by CLECs without use of UNEs. Verizon has *not*, for example, provided any evidence that the nature of those enterprise customers being served by CLECs without UNEs is comparable to that for Verizon's own enterprise customers or for those CLEC customers being served *with UNEs* in terms of lines, service mix, and overall revenue levels. Had it done so, that data would have confirmed that there are significant portions of the enterprise market that are not being served by CLECs without the use of UNEs. Similarly, Verizon's claim that "competing providers can and are serving customers without unbundled elements" says only that CLECs are serving *some* customers, but similarly teaches nothing about how much of the enterprise market *cannot*

(continued...)

Specifically, Verizon claims that CLECs serve some 48,350 buildings nationwide using their own fiber.[23] The figure represents an aggregation of data apparently obtained by Verizon largely from several *secondary* sources. This data differs from data provided by the CLECs themselves. Whether the total number of buildings being served by CLEC-owned fiber is the 48,350 (as Verizon claims) or something less, even Verizon does not contend – nor could it – that "*wherever* there is demand for high-capacity services," CLECs are capable of serving *all* potential customers without UNEs.

39. Verizon exaggerates the actual number of buildings being served by CLEC fiber by misinterpreting the term "on-net" as used by CLECs in public statements and analyst reports. Verizon apparently assumes that a CLECs uses the term "on-net" to refer specifically to situations in which CLECs have deployed their own fiber optic facilities to specified customer locations (buildings). In fact, CLECs do not consistently use this characterization in that manner. Rather, at least *some* CLECs use the term "on-net" to include all locations at which they are able to provide service using *either* owned *or leased* facilities. XO, for example, defines "on-net" in its second quarter 2004 financial reports as "[b]uildings connected to our network by either XO-owned or *controlled* cable or fixed wireless antenna."[24] XO plainly states that it includes both

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22. (...continued)
*profitably be served* by CLECs without access to unbundled network elements.

23. *Id.*, at Attachment 9.

24. XO Communications Condensed Consolidated Statement of Operations for the Second
(continued...)

"owned" and "controlled" connections to its network under the "on-net" definition. The extent to which other CLECs also include "controlled" or leased connections is unclear. Verizon has also failed to distinguish between general "connectivity" and "on-net" connectivity – a subset of total connections. Total connections would include both "on-net" buildings as well as buildings served by means of leased (e.g., special access) services between the building and the CLEC's fiber ring or the CLEC's central office. As a result, several of Verizon's results are either undocumented or, in some cases, manifestly wrong:

*KMC*

Verizon claims that KMC has 15,600 on-net connections, basing this assessment upon a KMC company press release.[25] However, this press release states that there are "15,600 buildings connected to KMC's networks."[26] Verizon has apparently assumed that all of these are KMC-owned fiber connections. KMC's website, however, provides more detailed information, and notes that the company includes only "1,700 on-net buildings" where it offers wholesale dedicated service connections.[27]

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24. (...continued)
Quarter, 2003, Operating Data Definitions, emphasis supplied. Available at: http://www.xo.com/about/investors/financials/xo2004q2_financialresults.pdf (accessed September 30, 2004).

25. *Verizon July 2, 2004 ex parte*, Source Appendix, at 2, citing http://www.kmctelecom.com/press/index.cfm?fuseaction=pressdetail&pressid=412.

26. KMC Press Release, "KMC Telecom Successfully Completes Financial Restructuring," July 29, 2003, available at http://www.kmctelecom.com/press/index.cfm?fuseaction =pressdetail&pressid=412 (accessed September 30, 2004).

27. KMC Wholesale webpage, http://www.kmctelecom.com/Wholesale/ (accessed September 30, 2004).

*McLeodUSA*

Verizon refers to McLeodUSA's 2001 10-K for its estimate of McLeod-owned on-net buildings. In that 10-K, McLeod reports that it is "connected to almost 1,500 buildings along [its] network."[28] However, McLeodUSA reported in the second quarter of 2004 that it provides service wholly over UNE-L, UNE-P/M and resale facilities.[29] Therefore, McLeod could not own connections to 1,500 on-net buildings, since it does not have any on-net connections at all.

*TelCove*

Verizon relies upon a TelCove press release that describes "TelCove's embedded network [as] connect[ing] well over 3,500 buildings,"[30] however, another TelCove company brochure advertises "direct connectivity to over 2,500 on-net buildings."[31]

*IDT*

Verizon incorrectly reports that IDT Solutions has connections to 3,500 buildings. The source to which Verizon refers for its information, IDT's website, states that IDT serves only 1,800 on-net buildings in 22 cities.[32] In fact, the number of buildings actually connected via IDT-owned fiber appears to be significantly less, perhaps none at all. As

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28. McLeodUSA Inc., 2001 10K Report filed with the Securities & Exchange Commission, April 12, 2002.

29. McLeodUSA Release, "McLeodUSA Reports Second Quarter 2004 Results," July 28, 2004, at 2.

30. *Verizon July 2, 2004 ex parte*, Source Appendix, at 2, citing *TelCove Adds Next Generation of Metro Area and Intercity Ethernet Services to its Line of High-Speed Communication Services*, PR Newswire, January 29, 2004.

31. *TelCove: Advanced Secure Communications*, Telcove Company Brochure, at 2, available on Telcove's website at http://www.telcove.com/prroom/media.htm (accessed August 27, 2004).

32. *Verizon July 2, 2004 ex parte*, Source Appendix, at 2, citing http://www.idtsolutions.net/products/buscont/solutions.asp.

Verizon itself recognized, IDT has ceased to provide service in 19 of those 22 cities.[33] So if the 1,800 buildings were associated with the 22 cities, then in follows that the number of buildings associated with the three cities (New York, Newark, and Washington, DC) that IDT continues to serve must be less. IDT actually serves however many buildings it does serve via fixed wireless (line-of-sight microwave), *not fiber*.[34] Hence, the actual number of buildings at which IDT has deployed its own fiber is, in fact, zero. Market experience (including the bankruptcy of Winstar) has demonstrated that such fixed wireless services are not functional substitutes for fiber optic facilities for mission-critical enterprise applications, due to their susceptibility to atmospheric interference, other types of service interruptions, and security concerns. To estimate IDT's fiber, Verizon uses the figure of 10,000 "route miles" it obtained from the *2002 CLEC Report*, whereas in the *2003 CLEC Report*, NPRG had reduced that figure to 5,000,[35] and had reported it as "n/a" in the *2004 CLEC Report*. Apparently, Verizon interpreted "n/a" in the 2004 NPRG document as being less reliable than the 10,000 figure from the 2002 document, a figure that NPRG had itself obviously believed to be questionable. According to IDT's most recent 10-Q report, it *still* doesn't own any fiber.[36] Therefore, it would appear that the correct figure for IDT fiber route miles is zero, not n/a, and certainly not the 10,000 miles that Verizon suggests.

33. *Id.*, citing *Application of Winstar Communications, LLC for Authority to Discontinue Certain Services*, WC Docket No. 04-154, Section 63.71 Application, April 15, 2004, at 2.

34. IDT Solutions Press Release, "IDT Corporation Announces Reorganization of Winstar/IDT Solutions," May 12, 2004, available at http://www.idtsolutions.net/about/press/releases/1023.asp (accessed September 30, 2004). IDT had acquired the *fixed wireless* assets of Winstar, which had used line-of-sight microwave, not fiber, to provide connectivity to its customers, and apparently continues to operate those WinStar assets in only three of the 22 cities in which Winstar had, prior to its April 18, 2001 bankruptcy, provided service.

35. New Paradigm Research Group, *CLEC Report 2003*, Chapter 6 at Winstar Communications, p. 1.

36. IDT Corp., First Quarter 2004 10Q Report filed with the US Securities and Exchange Commission, June 14, 2004, at 24.

*Cablevision Lightpath*

Verizon reports that Cablevision Lightpath has 7,000 route miles of fiber[37] – when in fact two separate sources, including Cablevision's own website, report that the company has only 2,700 fiber route miles.[38]

*Buckeye Telesystem*

Verizon reports that Buckeye Telesystem has 900 "on-net" buildings, but cites a third-party analyst report that actually does not specify these connections as "on-net."[39] Buckeye's website does not specify the number of buildings.

40. In some cases, Verizon's data appears to be totally wrong. For example, Attachment 8 to the *Verizon July 2, 2004 ex parte* identifies a number of MSAs in which Pac-West Telecomm, Inc. (Pac-West) is being claimed to have constructed its own fiber optic networks. According to Verizon, Pac-West has fiber in fourteen MSAs: Los Angeles-Long Beach-Santa Ana, California; San Francisco-Oakland-Fremont, California; Riverside-San Bernardino-Ontario, California; Phoenix-Mesa-Scottsdale, Arizona; Seattle-Tacoma-Bellevue, Washington; San Diego-Carlsbad-San Marcos, California; Denver-Aurora, Colorado; Sacramento-Arden-Arcade-Roseville,

37. *Verizon July 2, 2004 ex parte*, at Attachment 9, citing Kevin Curran, vice president, Product Management and Marketing, presentation, *Metro Networks: Rising to the Data Challenge*, http://www.lightpath.net/technology/presentations/index.html.

38. Lightpath, "For the Press: Lightpath's Network Advantage" Webpage, available at http://www.lightpath.net/Interior188.html (accessed September 30, 2004); Kuhl, Craig, "Getting Down to Business: Looking for Big Money, Cable is...," *Communications, Engineering & Design*, November 2003, available at: http://www.cedmagazine.com/ced/2003/1103/11a.htm (accessed September 30, 2004).

39. *Verizon July 2, 2004 ex parte*, Source Appendix, at 2, citing http://www.cedmagazine.com/ced/2003/1103/11a.htm.

California; San Jose-Sunnyvale-Santa Clara, California; Las Vegas-Paradise, Nevada; Fresno, California; Bakersfield, California; Stockton, California; and Salinas, California. However, in an *ex parte* letter from Pac-West filed with the Commission on September 7, 2004 in CC Docket No. 01-338 *et al*, Pac-West states that "[t]he information being proffered by Verizon as it pertains to Pac-West Telecomm is wrong. In fact, *Pac-West owns no fiber. Pac-West serves all customers via facilities obtained from other carriers, with much of that being obtained from the ILECs.*"[40]

41. The combined effect of reversing four specific overstatements of buildings being served by CLEC-owned fiber – KMC, McLeod, TelCove and IDT – is to revise Verizon's 48,350 figure downward by 41%, to only 28,450 (see Table 1 below). However, even that number is an overstatement of the actual number of buildings being served by CLEC fiber, given, for example that Verizon's figure for Cox is based upon an entirely undocumented estimate, and Verizon has provided no evidence that it has not double-counted buildings served by more than one CLEC.

40. *Ex Parte* Submission of Pac-West Telecomm, Inc. in CC Docket No. 01-338, filed September 7, 2004 ("*Pac-West September 7, 2004 ex parte*"), at 2, emphasis supplied.

**Table 1**
**Analysis of Verizon Data regarding CLEC Fiber Networks**

| | Markets | | Original Verizon Figures | | Corrected Figures | |
|---|---|---|---|---|---|---|
| | Cities | States | Route Miles of Fiber | On-Net Buildings | Route Miles of Fiber | On-Net Buildings |
| AT&T | 84 | 35 | 20,600 | 6,400 | 20,600 | 6,400 |
| Buckeye | n/a | 2 | 250 | 900 | 250 | 900** |
| Cablevision Lightpath | n/a | 3 | 7,000 | 1,620 | **2,700** | 1,620 |
| Cavalier | 16 | 5, DC | 2,000* | n/a | 2,000* | n/a |
| ChoiceOne | 37 | 12 | 1,429 | n/a | 1,429 | n/a |
| Cinergy | n/a | n/a | 1,000* | n/a | 1,000* | n/a |
| Comcast Business | n/a | n/a | 1,600* | 265 | 1,600* | 265 |
| Cox Communications | 20 | n/a | 9,500* | 6,600* | 9,500* | 6,600* |
| Grande Communications | 6 | 1 | 3,100 | n/a | 3,100 | n/a |
| ICG Communications | 24 | 5 | 2,166 | 913 | 2,166 | 913 |
| IDT Solutions | 2 | 1, DC | 10,000 | 3,500 | **0** | **0** |
| Integra Telecom | n/a | 5 | 85* | n/a | 85 | n/a |
| ITC^DeltaCom | 22 | 7 | 14,488 | n/a | 14,488 | n/a |
| KMC Telecom | 35 | n/a | 2,400 | 15,600 | 2,400 | **1,700** |
| Level 3 | 27 | n/a | 4,000 | 550 | 4,000 | 550 |
| MCI | 60 | 35, DC | 9,000 | n/a | 9,000 | n/a |
| McLeodUSA | 108 | 25 | 5,000 | 1,500 | 5,000 | **0** |
| NewSouth | n/a | 9 | n/a | n/a | n/a | n/a |
| NTS Communications | 7 | 1 | 7,000* | 50* | 7000* | 50* |
| Qwest | 27 | 14, DC | 1,800 | 250 | 1,800 | 250 |
| SIGECOM | 2 | 1 | 880 | n/a | 880 | n/a |
| TelCove | 35 | n/a | 19,186* | 3,500 | 19,186* | **2,500** |
| Time Warner Telecom | 44 | n/a | 11,345 | 3,854 | 11,345 | 3,854 |
| XO | 50 | n/a | 23,700 | 2,374 | 23,700 | 2,374 |
| Xpedious | 52 | 24, DC | 3,500 | n/a | 3,500 | n/a |
| Yipes | 10 | n/a | 21,000 | 474 | 21,000 | 474** |
| | | **Total** | **182,029** | **48,350** | **167,729** | **28,450** |

Notes: Bolded numbers represent updated figures.
* Indicates that the figures are "NPRG Estimates."
** Indicates that the on-net figure may represent on-net and off-net buildings.

Source: Where the numbers do not differ from Original Verizon Figures, see Verizon White Paper at Attachment 9. Where the numbers do differ (identified by bold typeface) see Attachment 2 for sources.

42. Verizon's analysis relies heavily upon "estimates" obtained from the "*CLEC Report 2004*" published by the New Paradigm Research Group (NPRG). NPRG describes the data that

it reports as being based upon "direct input ... [from] NPRG inquiries"[41] but also adds that "when a company has chosen not to provide information or respond directly to NPRG's inquiries, NPRG has provided estimates based on [NPRG's] expert opinions and knowledge developed since [it] began coverage of this industry."[42] For these "estimates," however, NPRG provides no specific documentation or sources either for its methodology or for much of its data and, as noted with respect to at least one CLEC – Pac-West – NPRG's information is decidedly incorrect. Verizon relies upon NPRG specifically for its estimates of "Route Miles of Fiber" for Cavalier, Cinergy, Comcast Business, Cox Communications, IDT Solutions, Integra Telecom, NTS Communications, and TelCove (formerly Adephia Business Solutions). Verizon relies upon NPRG estimates for "On-Net Buildings" for Cox Communications and NTS Communications. No Cox or independent source for NPRG's "estimate" of 6,600 Cox on-net buildings has been identified, yet Verizon has accepted this figure as fact.

43. For the most part, the various NPRG-sourced inputs to Verizon's "analysis" cannot be independently verified and, as Pac-West has admonished in its September 7, 2004 *ex parte* filing, "[i]n view of the clearly erroneous information submitted by Verizon with respect to Pac-West Telecomm, the information being submitted with respect to other CLECs' deployment of fiber

41. New Paradigm Research Group, *CLEC Report 2004*, Table of Contents, at 4.

42. *Id.*

networks must be independently verified before if may be accepted as fact and relied upon by the Commission."[43]

44. In any event, whether the correct number of "lit" buildings is 48,000, 28,000 or, as is most likely, much less, that still leaves roughly *three million commercial premises nationwide* at which, even by Verizon's own reckoning, *no CLEC-owned facilities are available*, and where the only means by which a CLEC can provide service is through the use of ILEC-owned facilities.

45. My determination that the RBOCs have overstated and exaggerated even the extremely limited amount of CLEC self-provisioned loop and transport facilities is confirmed and corroborated by evidence submitted on October 4, 2004 by Comptel *et al* in an *ex parte* filing in this docket, transmitting a study recently completed by QSI Consulting, Inc. ("QSI").[44] The QSI study evaluated state-specific loop and transport data filed by ILECs and CLECs in twelve state TRO proceedings.[45] In its study, QSI had reviewed *public* data from these state proceedings, including pre-filed testimony, responses to staff and other party discovery requests, and where

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43. *Pac-West September 7, 2004 ex parte*, at 2.

44. QSI Consulting, Inc., "Analysis of State Specific Loop and Transport Data, October, 2003, *Ex parte* letter from CompTel/Ascent *et al.* to Marlene Dortch, FCC, dated October 4, 2004, CC Docket No. 04-313 ("*QSI Report*").

45. QSI examined data from Michigan, Ohio, Wisconsin, Illinois, Indiana, Missouri, Oklahoma, Texas, Florida, Tennessee, Georgia, Washington, New York and California. Loop data was not available for New York and Washington.

issued, state PUC orders in those proceedings. QSI reports that in those proceedings, as in the *RBOC ex parte* submissions filed with the Commission in July and August 2004, the RBOCs had exaggerated the extent of CLEC-provisioned fiber overall, in part due to the RBOCs' reliance upon the very same third-party sources that formed the basis for their evidence filed with this Commission, such as the so-called GeoResults database. QSI determined that the GeoResults database consistently *overstated* the extent to which CLEC-provisioned loop and transport facilities actually existed in the market. With respect to the ILEC trigger filings, QSI noted that:

> In many states, the ILECs attempted to add to the identified building locations by using a third party database called GeoResults, which proved to be highly inaccurate based upon the sworn information provided by the CLECs themselves. GeoResults relied upon identifying equipment owned by CLECs and other parties that may be connected to fiber optic equipment, but it provided no actual validation as to whether there were any CLEC-owned facilities actually going into any building. This practice caused the ILECs to count buildings in which CLEC equipment may have been present but for which there was no evidence that the CLEC actually owned or operated loop facilities.[46]

Indeed, QSI noted, at footnote 10, that "SBC [had] eliminated the buildings for which it relied upon GeoResults in Michigan, which significantly reduced the total number of buildings SBC proposed that met the self-provisioning trigger" and also (at footnote 11) that "[i]n fact, often the equipment presented as "CLEC owned" was in fact owned by non-CLEC end user customers, such as banks and retail establishments."

46. *QSI Report*, at 9-10, footnotes omitted.

46. QSI's findings relative to the self-provisioning and wholesale triggers for loop facilities corroborates my own conclusions that the RBOC figures are overstated. For the twelve states that QSI had studied, QSI found that ILECs had consistently overstated the actual availability of CLEC fiber – and by a substantial amount. QSI's results are summarized in Table 2 below:

**Table 2**

**QSI Consulting, Inc.**
**Analysis of Claimed vs. Actual CLEC loop facilities**

| Trigger | ILEC claim | QSI finding |
|---|---|---|
| Self-provisioning, DS-3 | 954 | 130 |
| Dark Fiber | 954 | 0 |
| Wholesale DS-3 | 719 | 49 |
| Wholesale DS-1 | 724 | 36 |

Source: QSI Consulting, Inc., "Analysis of State Specific Loop and Transport Data, October, 2004, at 11-16.

***The RBOCs' own evidence demonstrates CLECs' near-total dependence upon ILEC hicap loop facilities as the sole means of providing service to the vast majority of CLEC enterprise customers.***

47. The lack of CLEC-owned facilities and the extreme dependence of CLECs upon ILEC high capacity loops is compellingly demonstrated by the maps and data submitted by the RBOCs themselves. While identifying the presence of competitive facilities, all of the RBOC map submissions also purport to show extensive use *by CLECs* of RBOC-provided special access

facilities. SBC, for example, has produced extremely detailed maps of the central business districts of several major cities within its operating territory that confirm widespread use of SBC special access services *even on streets where competing fiber optic facilities are portrayed as being in place*. Figure 3 below reproduces SBC's map of the San Francisco financial district, filed with its August 18, 2004 *ex parte*, in which more than 436 instances where SBC special access services is being provided to customer locations along streets where competitive fiber is in place.[47] In fact, an analysis of those SBC maps that separately identify CLEC "on-net" buildings and SBC special access buildings underscores the pervasive use of SBC facilities even in markets that SBC itself considers to be the most competitive of all. Table 3 below presents the results of my analysis for several of the MSAs in SBC's footprint, which appear to be representative of all of the MSAs for which maps have been provided:

**Table 3**

**Most CLEC enterprise customers are being served using special access, even on streets where CLEC-owned fiber has been deployed**

| City | All locations | | SBC Spc. Access on streets with CLEC fiber |
|---|---|---|---|
| | SBC Spc. Access | CLEC fiber | |
| San Francisco (city wide) | 1160 | 71 | 658 |
| San Francisco (financial dist.) | 719 | 68 | 436 |
| Oakland | 181 | 18 | 111 |
| San Jose | 95 | 24 | 63 |
| Dallas | 124 | 27 | 109 |

47. *SBC August 18, 2004 ex parte*, at Attachment A.

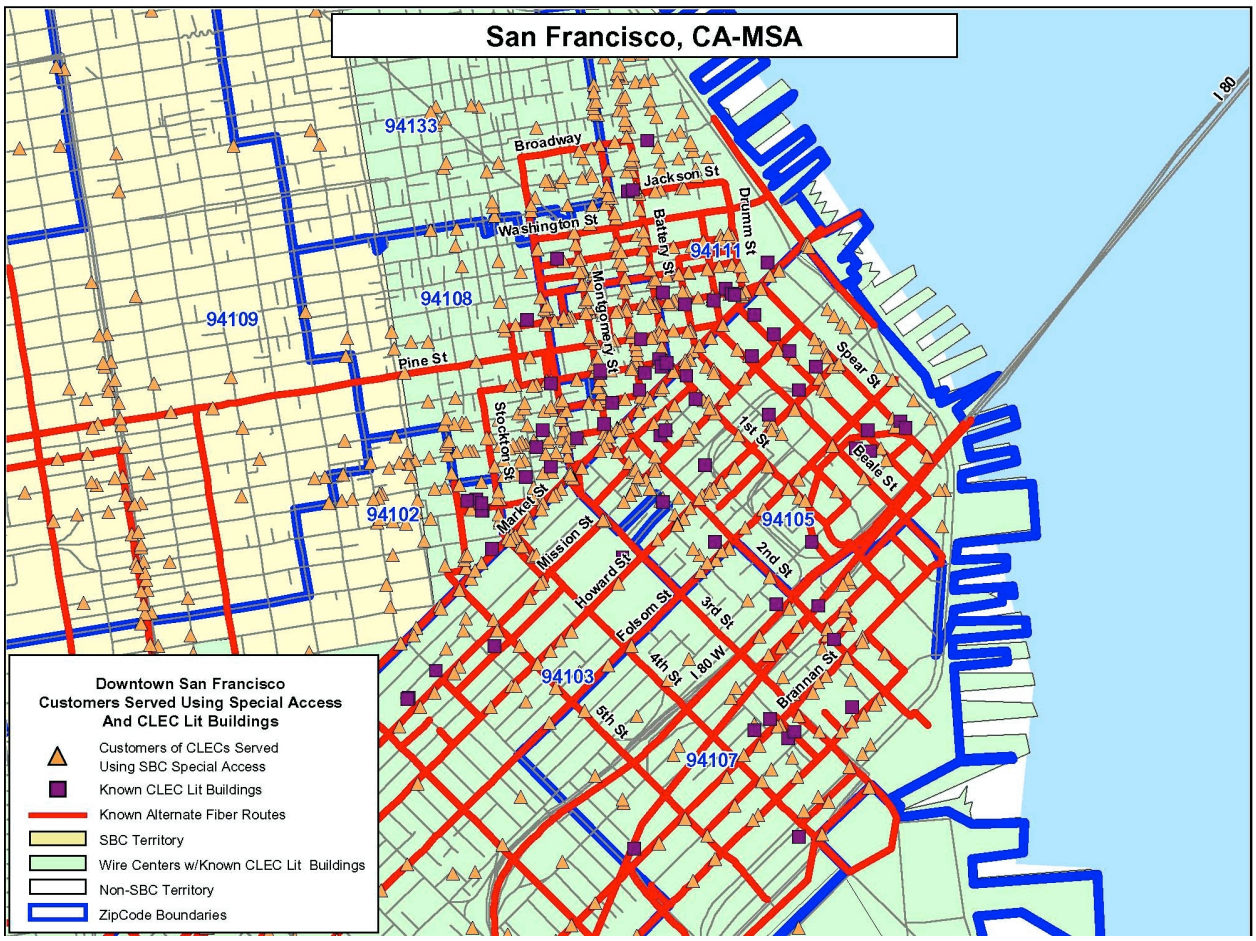


**Figure 3.** SBC map of Downtown San Francisco showing CLEC enterprise customers being served using Special Access and CLEC "lit" buildings.

48. RBOC contentions that CLECs can easily utilize fiber that is already in place to serve additional customers is belied by the RBOCs' own submissions. Referring back to the SBC map of the San Francisco financial district (Figure3), it is worth noting that (according to SBC) *all of the customer locations identified on that map are being served by CLECs either through the use of CLEC-owned facilities (the purple squares) or via SBC special access (the yellow triangles).* Taking SBC's information at its face value, a physical count of the squares and triangles reveals that there are approximately 436 instances in the small area included on this map where, according to SBC, the CLEC is using SBC special access *even though there is CLEC-owned fiber passing the customer's building on the very same street.* However, given the rather questionable nature of the data sources that were used by SBC in preparing these maps, it is also possible that for at least some of these locations the purported CLEC fiber does not actually exist, it may exist but not be "lit," it may belong to a different CLEC than the one serving the specific customer, or it may have been placed and engineered for some use other than for "last mile" local service, such as for interoffice transport or as an interexchange carrier access facility.

49. Clearly, the proximity of a customer to CLEC-owned fiber is not the controlling factor in the CLEC's economic choice as between using its own already-in-place fiber facilities or purchasing special access *at above-cost prices* from SBC. As AT&T Declarants Fea and Giovannucci explain, there are a number of reasons why a CLEC may be forced to use RBOC facilities even if there is CLEC-owned fiber nearby. Among the key issues are these:

(1) Connections to the fiber facility can only be made at a limited number of "Network Access Points" that have been established for this purpose, places where terminating equipment and cross-connection facilities are in place. There is a direct analogy to a superhighway or mass transit system – even if you live right next to the highway or the transit line, you can only access it at interchanges (in the case of the highway) or stations (in the case of the transit line).

(2) The costs of effecting such a connection are often substantial, and can only be justified where revenues at the particular customer location will be sufficient.

(3) Building owners are not obligated, as a legal matter, to allow CLECs to bring facilities into their buildings, and where they do permit such entry may impose construction, rental or other fees that will serve only to increase the entry barrier overall.

(4) Depending upon where the demarcation has been established, the BOC may own the riser facilities within the building, whose use by a CLEC may potentially involve makeready and recurring charges.

It is critical that the Commission not be misled by the kind of utterly superficial "geographic proximity" arguments being advanced by the RBOCs, arguments that ignore entirely the economic costs and other considerations that are actually involve in determinations as to the economic feasibility of providing service using CLEC-owned facilities.

## TRANSPORT

**The RBOC "spider-web" maps of "possible" CLEC self-provisioned transport routes are entirely hypothetical and fictitious, identify no *actual* self-provisioned interoffice routes, and make no distinction as between routes with traffic requirements above or below the twelve DS-3 self-provisioning threshold adopted in the *TRO*.**

50. The RBOCs argue that CLECs always have alternatives to unbundled transport. According to Verizon, "when competitive fiber is present in a given wire center, it almost always connects to the CLEC's own fiber network, or the fiber network of another competing provider, and can therefore be used to reach any other wire center that also is reached by those competitive networks." In support of this contention, Verizon has created stylized maps portraying entirely fictitious "spider-webs" of point-to-point interoffice connections between every possible pair of wire centers containing CLEC collocations throughout each of its top-20 MSAs. Verizon's maps identify no *actual* CLEC-provisioned interoffice routes, nor do they differentiate such routes as a CLEC may require on the basis of channel capacity.

51. AT&T declarants Fea and Giovannucci explain that CLEC fiber backbone networks have no requirement for such "anywhere-to-anywhere" pairwise connectivity among all of the CLEC's collocations, that to engineer such connectivity into CLEC networks would be enormously costly and inefficient, and that as such CLEC networks simply do not possess the

"spider-web" structure that Verizon has fantasized.[48] Beyond its fictitious maps and characterizations, Verizon offers no *actual* evidence that *any* CLEC networks actually possess the connectivity attributes that it portrays.

**The RBOCs have completely ignored the purposes for which CLECs have deployed fiber and the inability to obtain seamless transport over fiber deployed by different CLECs, and so their contrived evidence does not establish that competitors are not impaired without access to unbundled dedicated transport facilities.**

52. Even the largest CLECs serve only a small fraction of the number of customers that are served by a typical RBOC. As such, CLECs do not maintain switching and other network facilities at each RBOC wire center. CLEC interoffice networks are designed primarily, if not exclusively, for the limited purpose of *extending individual subscriber loops from the ILEC wire center at which they terminate to the CLEC's switch and network hub.* In the *TRO*, the Commission had determined that self-provisioning of such interoffice transport links could not be economically justified unless the CLEC's capacity requirement was greater than twelve DS-3s over each specific point-to-point route, and found that CLECs would be impaired without access to unbundled interoffice transport with respect to traffic requirements of twelve DS-3s or less, or where there was less than two other CLECs offering wholesale interoffice transport over the specific point-to-point route.

48. Declaration of Anthony Fea and Anthony Giovannucci on behalf of AT&T Corp. ("Fea/Giovannucci Declaration"), at para. 15.

53. In the traditional architecture of *ILEC* networks, *loops* provide connectivity between individual customer premises and the serving wire center where a central office switch is located, and *interoffice transport* facilities provide connectivity between and among those wire centers and switches. However, when viewed in the context of *CLEC* network architecture, this "bright line" distinction between "loops" and "transport" is more difficult to draw. While I have no doubt whatsoever that this key difference between the design of ILEC and CLEC networks is well understood by all of the RBOCs, it is equally apparent, from the manner in which the RBOCs have framed this issue both before the Court and now before the Commission, that the RBOCs are misportraying the CLECs' need for and use of interoffice transport in a manner that seems intended to make the evaluation of the impairment question far more difficult than it needs to be.

54. RBOC subscriber loops terminate at RBOC wire centers, which also house RBOC switches. Thus, no interoffice transport facilities are typically required to effect connectivity between an RBOC subscriber and an RBOC switch. In contrast, when a CLEC uses a UNE loop leased from an RBOC to provide service to the CLEC's customer, that loop will terminate at the CLEC's collocation space *in the RBOC's wire center*. However, unlike the RBOC, the CLEC *does not have any switching facilities in the RBOC's building*, and so it must *extend* the loop from the RBOC wire center to the CLEC's switch or network hub, which may itself be located at some distance from the RBOC's wire center where the subscriber loop terminates. This extension of the individual subscriber loop *beyond the collocation in the RBOC wire center* involves *interoffice transport*. There are several different means by which this can be

accomplished, with the efficient choice among them being driven by the total volume of CLEC traffic (e.g., number of CLEC subscriber loops) terminating at the RBOC wire center and the proximity of that wire center to the CLEC's network hub or fiber ring:

(1) The CLEC can bring its own fiber into its collocation – i.e., put that wire center on its fiber ring.

(2) If another carrier has fiber terminating in that same wire center capable of providing connectivity to the CLEC's network or hub, the CLEC may be able to lease transport capacity from that other carrier.

(3) The CLEC may lease unbundled interoffice transport from the RBOC from the wire center to the CLEC's network or hub (so-called "extended enhanced loops," or "EELs").

There is no direct analogy between a CLEC's use of interoffice transport to extend individual subscriber loops to its switch or hub and an ILEC's use of interoffice transport to provide temporary switched interoffice connections among end users served by different wire centers or to provide leased (private line) dedicated interoffice channels interconnecting end user premises.

55. In the *TRO*, the Commission determined that the deployment of CLEC transport facilities generally was only feasible where the aggregate capacity demand *on a specific point-to-*

*point route* was greater than 12 DS-3s (equivalent to one OC-12 facility), or where fewer than two CLECs are offering wholesale interoffice transport over the specific route required by the CLEC.[49] The RBOCs' "evidence" of transport facilities deployment, as was the case with RBOC loop "evidence," fails to identify these different capacity fiber routes, and therefore ignores the Commission's previous findings of feasible self-deployment.

***RBOC "spider-web" maps and data portray entirely fictitious interoffice connectivity and clearly overstate the actual existence of CLEC fiber, even at undifferentiated capacity levels.***

56. Nowhere is this misportrayal more evident than in Verizon's *ex parte* filing:

> Maps C show, for each of the 20 MSAs, the transport routes between wire center service areas where known competitive fiber is present. This does not mean to suggest there is fiber directly between each of these wire centers, but it does show where, in the Court's word, it is "possible" to establish connections between wire centers. This is so because when competitive fiber is present in a given wire center, it almost always connects to the CLEC's own fiber network, or the fiber network of another competing provider, and can therefore be used to reach any other wire center that also is reached by those competitive networks.[50]

49. In fact, as AT&T experts Fea and Giovannucci clearly document, it is extremely unusual for CLEC fiber to be deployed to interconnect multiple ILEC wire centers. Such connections can rarely be justified on economic grounds. There may be other impediments to a CLEC's ability to deploy its own fiber transport facilities, such as right-of-way and other construction-related issues.

50. *Verizon July 2, 2004 ex parte*, "White Paper," at 11.

A copy of Verizon's "Map C" for the New York-Northern New Jersey MSA is provided here as Figure 4.

57. Verizon would have the Commission believe that *all* of the interoffice facilities owned by *all* of the CLECs serving a given MSA have been merged into a single, integrated network "cloud" such that connectivity to any one point within the "cloud" provides connectivity to every point within the "cloud." That vision is entirely inaccurate and inapposite with respect to the specific design *and use* of interoffice transport networks by CLECs – which is primarily, if not exclusively, for the purpose of *extending individual subscriber loops from the ILEC wire center at which they terminate to the CLEC's switch and network hub.* The anywhere-to-anywhere functionality being portrayed by Verizon on its "Map C" precisely describes the PSTN, *but has nothing whatsoever to do with the CLEC fiber rings that Verizon purports to be portraying*. Functionally, CLEC networks are of the "hub and spoke" or "star" design, providing redundant point-to-point connectivity from each of the individual network nodes to the network hub (see Figure 5). There is no requirement for interconnection *among* the individual network nodes, and there is certainly no requirement for connectivity *between* different CLECs' respective networks. Verizon's suggestion that "it is 'possible' to establish connections between wire centers" has validity only as a theoretical abstraction: "Anything's *possible*," of course, but in this specific

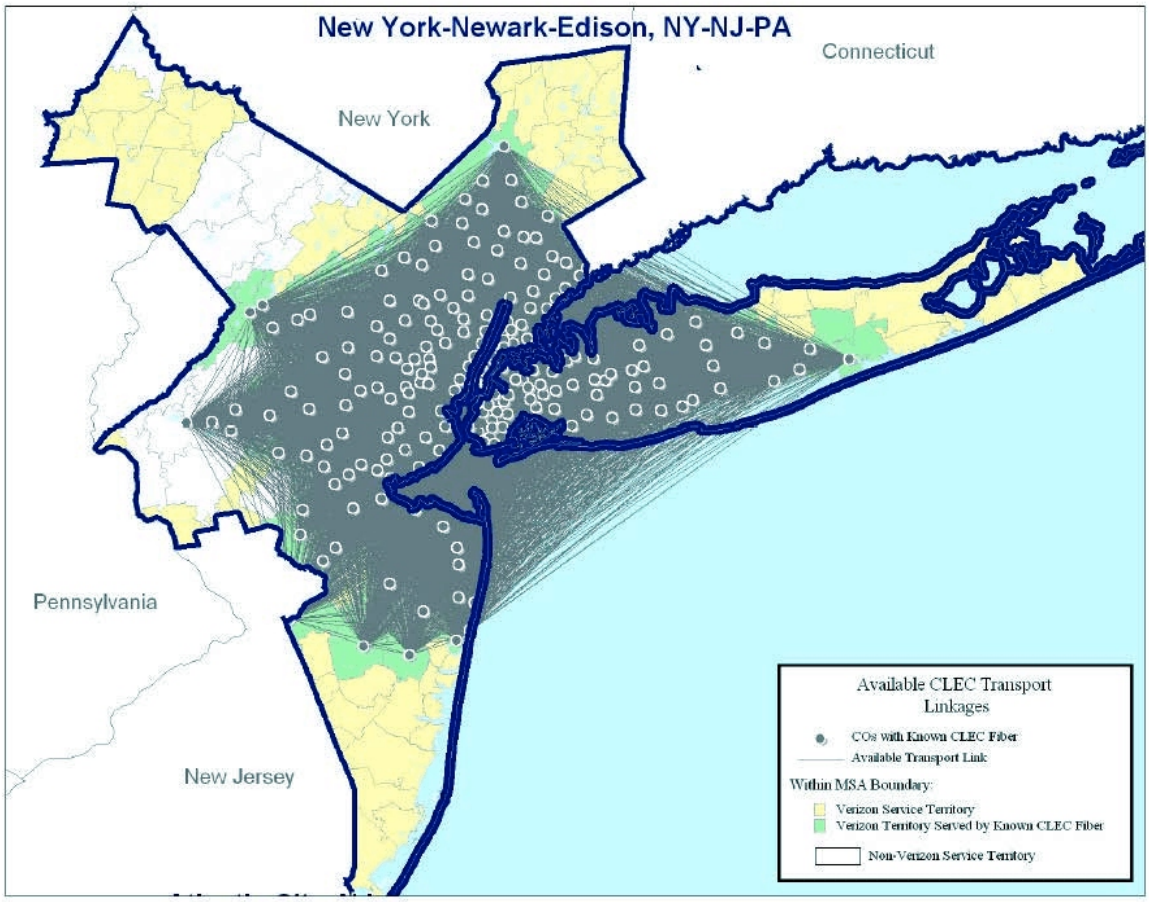


**Figure 4.** Verizon's "Map C" for the New York MSA showing what Verizon claims to be the hypothetical existence of CLEC interoffice transport facilities.

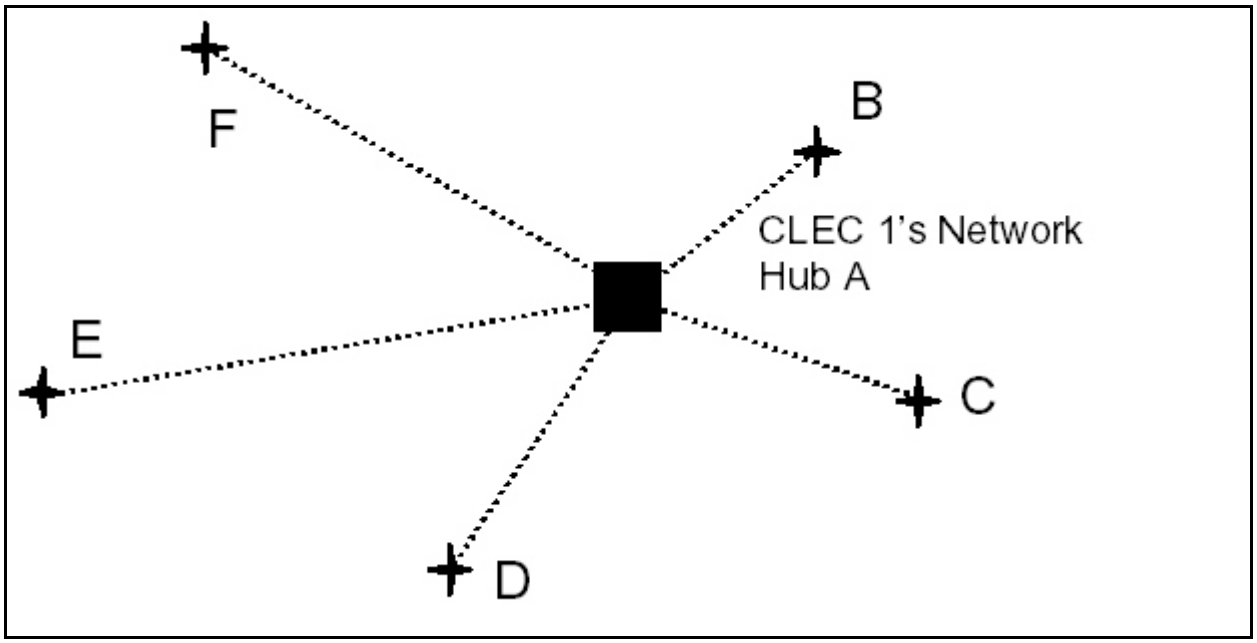


**Figure 5.** Illustrative diagram of CLEC interoffice transport network functionality. No connectivity between or among ILEC wire centers (B, C, D, E, F) is provided or required.

case such connectivity is neither *practical* as an economic matter nor *necessary* as a business or technical matter. Because these networks are designed specifically to carry traffic between a node and the network hub, without major reengineering the only practical means by which one CLEC network could be used for node-to-hub EEL-type transport by a different CLEC is where both maintain network hubs in essentially the same place. Figure 6 illustrates this problem. Suppose that CLEC #1 has its hub at location "A" and has constructed a fiber ring designed to provide connectivity between "A" and its collocations at each of five ILEC wire centers, B, C, D, E and F. Suppose that CLEC #2 maintains its hub at a site near (but not *at*) ILEC wire center "C" and would like to use CLEC #1's fiber ring to provide connectivity between its hub near "C" to B, D, E and F. The problem is that CLEC #1's network only provides connectivity over the

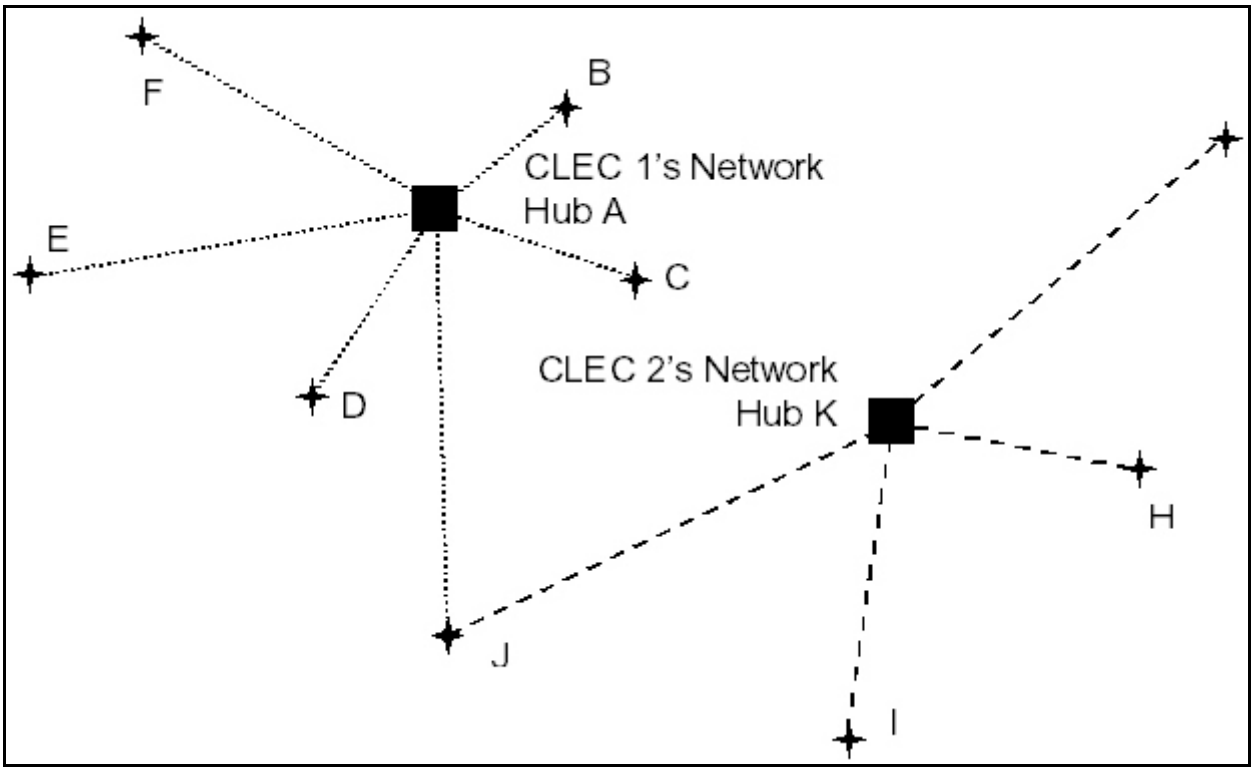


**Figure 6.** Two different CLEC networks may both have collocations at the same ILEC wire center (J), but are not capable of providing anywhere-to-anywhere interoffice transport.

routes A-B, A-C, A-D, A-E and A-F, whereas CLEC #2 requires connectivity over the routes C-B, C-D, C-E and C-F, *none of which are part of CLEC #1's network design*. Viewed in the context of the situation that Verizon sought to portray in its Maps "C" (Figure 4 above), the actual presence of CLEC point-to-point transport capacity is in reality to be found in only a handful of routes (see Figure 7). Verizon's abstraction as to what is "possible" is thus premised upon two suppositions *neither one of which is true in actual practice – viz.*, (1) that all CLEC networks within a given MSA are fully interconnected with one another; and (2) that each individual CLEC network is capable of effecting connectivity between any two points on its network. Neither Verizon nor any of the other RBOCs have offered any evidence as to the

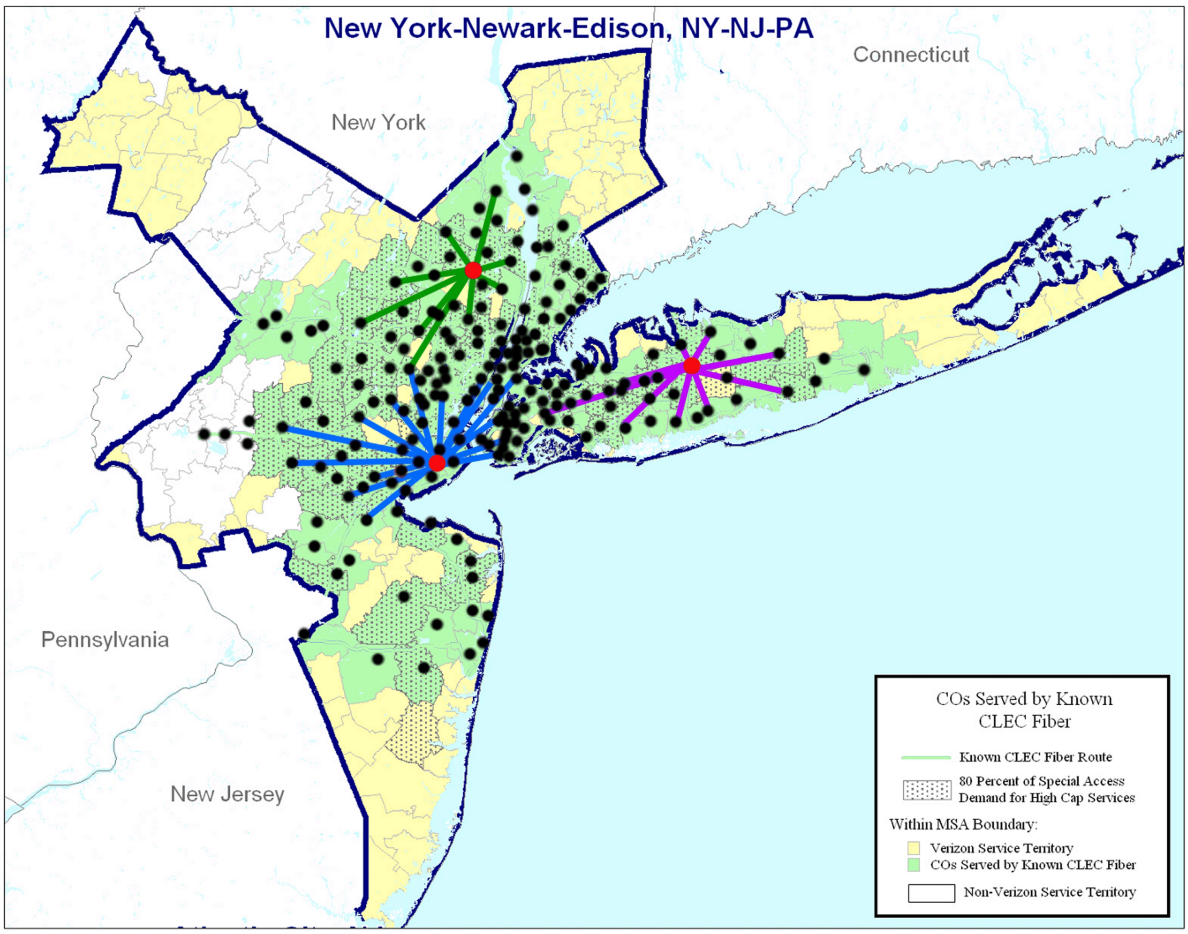


**Figure 7.** The actual presence of CLEC point-to-point transport capacity is in reality to be found in only a handful of routes. (Illustrative)

validity of these two critically important suppositions, *nor could they, since both suppositions are demonstrably false*. This limitation on the connectivity of CLEC networks is discussed in more detail in the declaration of AT&T experts Anthony Fea and Anthony Giovannucci clearly document, it is extremely unusual for CLEC fiber to be deployed to interconnect multiple ILEC wire centers. Such connections can rarely be justified on economic grounds.

***The existence of fiber-enabled equipment in an ILEC end office is not evidence that there is dedicated transport available from that end-office over a route that a particular CLEC may require.***

58. As AT&T declarants Fea and Giovannucci explain, CLEC fiber rings are designed and configured to provide "entrance facilities" to a CLEC switch or point of presence, and not to provide dedicated transport between ILEC offices. Transport facilities that are configured and used to serve only as entrance facilities to a CLEC switch or point of presence cannot and do not provide dedicated transport between ILEC offices. Reconfiguring such networks provide dedicated transport between ILEC offices would involve considerable cost and decrease the overall capacity of the fiber network, all to provide a capability that CLECs ordinarily do not themselves require. The fact that a CLEC has two collocations – even two collocations connected to the CLEC's switch or point of presence by its own fiber facilities – falls several steps short of demonstrating that the CLEC *actually* is *providing* dedicated transport between the two collocations, or even that the CLEC *could* economically provide dedicated transport.

59. With very limited exception, the fiber that CLECs have deployed to ILEC central offices has not been provisioned – and is not being used – to carry traffic *between* two ILEC central offices because it is highly unusual that any one CLEC end user customer would itself have a requirement for a specific dedicated point-to-point circuit where both endpoints happen to be on the CLEC's fiber ring.

***The GeoTel data upon which the RBOCs' claims as to CLEC deployment are based is unsubstantiated and wrong.***

60. For purposes of discussion, I have up to now been treating as accurate the CLEC networks being depicted in the various maps that Verizon and the other RBOCs have introduced in their effort to portray CLEC network deployment as extensive. Upon closer examination, however, it is clear that the RBOCs' depiction is anything but accurate. Verizon, SBC and Qwest all rely upon the same underlying data source for their maps – GeoTel's Metro Fiber database.[51] The maps purport to show many different things: CLEC "lit" buildings, CLEC fiber routes, ILEC wire centers in which CLECs have collocated fiber-enabled equipment, and CLEC customer locations served using special access. Relative to the issue of dedicated transport, the RBOCs' maps purport to show CLEC fiber running down city streets and around metropolitan areas, and connected to RBOC wire centers at which CLECs are "known" to have collocated fiber-enabled equipment. As I will discuss below, since the GeoTel database is a proprietary

51. *Verizon July 2, 2004 ex parte*, at 10. *SBC August 18, 2004 ex parte*, at 3. *Qwest August 19, 2004 ex parte*, at 2.

product with no detailed source references, the matter of whether or not the RBOC maps accurately portray the CLEC fiber routes cannot be readily confirmed.[52] Moreover, as I noted earlier (at para. 37), at least one of the key sources in input to the GeoResults data – Telcordia's CLONES database – contains numerous out-of-date and obsolete records, and cannot be relied upon as evidence of *current* CLEC facilities deployment. Similar conclusions were reached by QSI Consulting, Inc. and by the New York State Department of Public Service Staff. In any event, even taking them at face value, the RBOC maps offer no useful information relative to the ability of CLECs to self-provision dedicated transport *below the OC-12 level* – and more importantly, *provide no evidence whatsoever that any CLECs are currently doing so*.

61. QSI undertook to develop an independent estimate of CLEC transport based upon data developed from state impairment proceedings. QSI found that alternative loop and transport facilities at the trigger levels were scarce in the states it evaluated. Typical of the QSI findings is the following example. QSI found only 40 dedicated transport routes with two or more providers offering wholesale DS3 transport across all twelve of the states that it had evaluated, compared to 5,985 such routes that had been claimed by the RBOCs in those same proceedings.

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52. According to GeoTel's website, its MetroFiber dataset contains metro fiber routes for "[o]ver 200 carriers in more than 130 MSAs," but fails to identify any of the specific CLECs that have contributed their data, nor does it provide specific citations to any other data sources. There is thus no means by which the Commission can verify that the fiber routes and other data being portrayed by SBC and Verizon are current or accurate, or that the specific routes and buildings identified as being "lit" are in fact "lit" and are not themselves carrier, rather than end user, locations, including in particular RBOC building locations to which CLEC fiber is connected. *See* http://www.geo-tel.com/products.cfm (accessed September 30, 2004).

Significantly, 37 out of those 40 routes were in New York,[53] such that *only three routes with two or more providers offering wholesale DS3 transport could be found across the remaining eleven states*. Put differently, the RBOCs' figure for the number of such routes in the twelve state proceedings as having met the dedicated transport trigger for wholesale DS3 service was overstated by roughly 15,000 percent!

62. Notably, a Staff Report prepared by the State of New York Department of Public Service summarizing its Staff's analysis of switching and transport triggers found similar exaggerations.[54] In that report, released March 31, 2004, the NY DPS Staff found a total of only 100 dedicated transport routes that met all of the transport triggers combined (72 in Verizon territory, 28 in Frontier territory), as compared with the roughly 4,000 such routes that, according to the QSI analysis, Verizon and Frontier had claimed to exist in New York State.[55] Specifically, the NY DPS found the following routes met the FCC's triggers:

36 wholesale DS-1 routes
48 self-provisioned DS-3 routes
37 wholesale DS-3 routes
46 self-provisioned dark fiber routes, and
0 competitive dark fiber routs

53. *QSI Report*, Table 7.

54. NY DPS Staff's Analysis of Switching and Transport Triggers, released March 31, 2004, in conjunction with the NYPSCs Case 03-C-0821 implementing the *TRO*.

55. *QSI Report*, at Table 7.

***"Survey" evidence of CLEC fiber-enabled equipment in an ILEC central office is not evidence that there is dedicated transport between that office and any other ILEC central office.***

63. Verizon supplies what it characterizes as market-by-market analyses of what it believes to be CLEC dedicated transport routes compiled from what it describes as "two highly reliable sources of data," one of which is a series of "inspections" of individual CLEC collocations in Verizon wire centers, conducted by Verizon itself.[56] The stated purpose of Verizon's surveys was "to identify those [wire centers] in which competing providers have obtained fiber-based collocation."[57] Importantly, however, that is the most that such inspections could have revealed. More specifically, Verizon could not have determined, from those inspections, the routing or connectivity associated with the fiber at the collocation, *yet it is the assumption of universal connectivity that lies at the heart of Verizon's non-impairment contention*. Indeed, conspicuously absent from all of the RBOCs' submissions are maps or data showing ILEC wire centers with CLEC collocated fiber-enabled equipment *connected via operational CLEC fiber* to any other ILEC wire centers with CLEC collocated fiber-enabled equipment. Even if such maps were to have been prepared, they would have shown no such facilities, because CLECs do not have such dedicated transport connections.

56. *Verizon July 2, 2004 ex parte*, at 9.

57. *Id.*, at 10.

64. More importantly, however, both the Verizon inspection data and the "reliable" third-party data obtained from GeoTel[58] suffer from a flaw of interpretation by Verizon. Specifically, Verizon took reports of central offices that contain fiber-fed collocation equipment, and from that *inferred* that every such office had a dedicated transport connection to every other such office. There is no means by which Verizon could have made such a determination from the kind of inspections that it has described and, as I have previously explained, CLECs *do not need and do not have point-to-point connectivity between individual ILEC central offices*.

65. The heart of Verizon's argument (and underpinning SBC's and Qwest's filings as well) appears to be the belief that if a competing carrier has a fiber-based collocation arrangement in both central office 'A' and central office 'Z', it must follow that the carrier has transport facilities connecting A and Z. Such an interpretation fails to consider how CLECs have actually deployed and provisioned the fiber facilities they have extended to their collocation spaces at ILEC central offices, and how CLECs are actually using those facilities. Indeed, in its examination of CLEC collocation cages, Verizon gave no indication that its inspectors had examined the specific use of *any* CLEC's fiber facilities or collocated equipment on any individual route – in fact their examinations could not have provided any details as to *where* the fiber went after it left the wire center. In any event, since CLECs do not ordinarily interconnect their collocations, Verizon's "inspections" actually prove nothing at all.

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58. *Id.*

## SPECIAL ACCESS AND RESULTING PRICE SQUEEZES

**The requirement that CLECs utilize DS-1 and DS-3 loop and transport facilities priced as "Special Access" services due to the nonavailability of these facilities as UNEs would afford the RBOCs both the incentive and the ability to impose a price squeeze upon rival carriers.**

66. I understand that the RBOCs have argued that the Commission should "de-list" high capacity loops and transport facilities as UNEs because competitors can lease those facilities from the RBOCs as "special access" services. In my expert view, competitive carriers would be impaired without access to cost-based loop and transport UNEs. Because special access services are not effectively regulated – indeed, they are priced well-above economic cost – the RBOCs can foreclose competition at any time through a classic "price squeeze." In fact, AT&T has demonstrated that there are several local business services that it has ceased to offer in light of the special access prices that the RBOCs charge.[59] Likewise, AT&T has shown that for many other services such as private line service and Frame Relay, the RBOCs have set special access and retail prices at levels that do not allow AT&T or any other efficient carrier to compete for

59. AT&T first announced on June 23, 20004 that it was exiting the residential local and long-distance markets in seven states across the country (see AT&T News Release "AT&T to Stop Competing in the Residential Local and Long-Distance Market in Seven States," June 23, 2004, available at http://www.att.com/news/item/0,1847,13121,00.html). The following month, AT&T went on to announce that it was ceasing all investment in traditional consumer services (see AT&T News Release, "AT&T Announces Second-Quarter 2004 Earnings, Company to Stop Investing in Traditional Consumer Services; Concentrate Efforts on Business Markets," July 22, 2004 available at http://www.att.com/news/item/0,1847,13163,00.html).

many customer segments on a going-forward basis.[60] Competition for these services can thus "flourish"[61] only if AT&T and other new entrant carriers are permitted to lease cost-based loop and transport UNEs whose prices accurately reflect economic costs.

67. Significantly, none of the maps or other data purporting to show competitor use of RBOC special access services that have been provided by Verizon, SBC, Qwest and BellSouth indicate the type of service that is actually being provided to the end user. Special access service has been used by IXCs to provide services such as AT&T's Megacom[SM], Megacom 800[SM], VTNS (Tariff 12) services, Software-Defined Network[SM] (SDN), MultiQuest[SM]; MCI's VNET[SM], MCI On-Net[SM], MCI Vision[SM], MCI Prism[SM], MCI WorldCom Frame Relay, MCI Dedicated 800 Service, MCI Dedicated Leased Line Service, and MCI Business Communications Services; and Sprint Clarity[SM], Sprint Premiere[SM], Real Solutions[SM], Business Sense[SM], Frame Relay Service, Sprint Business Flex[SM], Sprint Real Solutions VPN[SM], Sprint ATM Integrated Services (AIS), Sprint ATM Integrated Services (AIS) Business Options A and Option B (Formerly Sprint ION), and Miscellaneous Services, Sprint Voice VPN[SM] Solutions, Sprint Business AnyTime[SM], Sprint Solutions for Business (Classic Solution, PRI Solution, Priority Solution, Sprint Business Basic, and Sprint Custom Access Solutions[SM], Sprint Complete Sense for Business[SM] (Sprint Complete Sense for Business[SM] Basic, Sprint Complete Sense for Business[SM] Premium, and Sprint

60. Declaration of Alan G. Benway, Robert G. Holleron, Jeffrey King, Michael E. Lesher, Michael C. Mullan, and Maureen Swift on behalf of AT&T Corp., WC Docket 04-313, October 4, 2004 ("*Benway et al Declaration*").

61. *USTA II*, 359 F.3d at 576.

Complete Sense for Business Unlimited), Sprint Voice Solutions, Sprint Business Essentials[SM], Sprint Business Adjustable Rates[SM] Plan, Sprint Hospitality Connection, Sprint Single Source Solutions, Sprint Conferencing Services, Sprint WATS and Toll Free Services, Sprint Small Business Unlimited Solutons[SM], Sprint Dedicated Leased Line Services, Sprint Frame Relay, Enhanced Frame Relay Services; as well as generic interexchange services such as dedicated (voice and data) private lines, Frame Relay, ATM, dedicated private line, international private line, and perhaps others. The use by an IXC of special access to provide any of these interexchange (i.e., *non-local*) services *teaches nothing, one way or the other, regarding the ability of CLECs profitably to provide enterprise local services via special access*, and any inference that the RBOCs attempt to draw to that effect is without basis and without merit. Indeed, evidence of the historic and current use of special access by IXCs could not support even impairment inferences with regard to these long distance services, given the fundamental market structure changes that are not reflected in those data.

68. Even where an *existing* special access service is being furnished to a CLEC for purposes of providing local service to an enterprise customer, there is still no basis for the inference that the RBOCs ask the Commission to make regarding the ability to CLECs profitably to serve *new* customers using special access or to retain existing customers once current contracts expire. CLECs incur substantial start-up costs to initially furnish new service to a customer – costs that are further increased where a special access connection is required. In addition to the costs associated with customer acquisition (marketing, advertising, sales), the CLEC will need to incur one-time costs to establish the customer's account, design and engineer the service being

ordered, install the service and test the connection and, where the use of ILEC special access is required, pay an often substantial nonrecurring service connection charge to the ILEC. All else equal, the *ongoing* profitability of *maintaining service in place to an existing customer* (after all up-front costs have been incurred and sunk) will necessarily be greater than the profitability of initially providing service to a new customer, where all such up-front costs have yet to be expended. Thus, even if one were to assume (for sake of discussion) that *all* of the *existing* CLEC service locations identified by Verizon, SBC and Qwest as being served via special access are being served profitably going forward, that fact would provide no basis for an inference that even similarly situated customer locations where the CLEC is not at present furnishing service could be served profitably going forward.

69. Many existing CLEC enterprise customers take service subject to a term agreement. Many of these agreements were negotiated at a date *before* the RBOC had begun competing for retail enterprise business, in which case the RBOC would not have been in contention for the customer's business. That is certainly no longer the case, and there is no assurance that all existing CLEC customers will remain with the CLEC (or a different CLEC) once they are "up for grabs." Moreover, not only do CLECs now face RBOC competition when the CLECs' customers' contracts are up for renegotiation, CLECs also likely confront significantly higher special access prices than had existed when the current customer's service was initially quoted. If, as is likely, the CLEC will be forced, due to the increased special access prices it must pay to the RBOC, to correspondingly increase its own retail prices, its likelihood of being able to retain the customer is further diminished. Additionally, the increased special access prices are already

forcing CLECs to withdraw altogether from the less profitable segments of the enterprise business. Thus, even if the RBOCs' data as to the *present* existence of CLEC customers being served via special access were 100% accurate – which of course it is not – there would be no basis for any inference that all – or even most – of those customers would or could be retained by the CLEC if forced to continue to use special access going forward.

***Special access rates are not effectively regulated by the Commission, and may be – and are being – significantly increased by the RBOCs as it serves their own strategic ends.***

70. The Commission's has previously observed that "forcing requesting carriers to rely on tariffed offerings would place too much control in the hands of the incumbent LECs, which could subsequently alter their tariffs and thereby engage in a vertical price squeeze," is clearly a valid concern. In fact, and as demonstrated in the Declaration of Benway *et al* on behalf of AT&T, such price squeezes are precisely what is taking place in the market. Forcing CLECs to pay above-cost prices for essential network elements impairs their ability profitably to serve customers that could be profitably served if the "last mile" facilities were available as UNEs at economic cost-based rates. The direct effect of the non-availability of UNEs is that such potential CLEC customers are no longer available to the CLEC. However, there are indirect effects that operate to further limit the portion of the total product and geographic market that would be available to CLECs. For example, where a CLEC is able to serve only a portion of a particular product and geographic market, customers whose requirements include locations that cannot profitably be served by the CLEC may be unwilling to purchase services from the CLEC

even at those locations where the CLEC is able to operate profitably, thereby removing even potentially profitable service opportunities from the addressable market. Additionally, as successive segments of the total product and geographic market are rendered unprofitable to serve as a result of the succession of RBOC special access rate increases, the overall scale of the CLEC's operations are diminished, forcing it to spread its fixed costs across a smaller customer base, further impairing its overall profitability and ability to successfully compete with the RBOC.

71. Importantly, in *USTA II* the Court has acknowledged "the ILECs' incentive to set the tariff price as high as possible."[62] Special access pricing flexibility gives the RBOCs the means to pursue this incentive, and the evidence that they have done just that is undeniable. The Commission's assessment at para. 102 of the *TRO* that "forcing requesting carriers to rely on tariffed offerings would place too much control in the hands of the incumbent LECs, which could subsequently alter their tariffs and thereby engage in a vertical price squeeze" is demonstrably correct, and the Commission should now make the specific findings that the Court has required to support the fundamental accuracy of its conclusion.

62. *USTA II*, 359 F.3d at 576.

***Because both RBOC retail enterprise service rates and special access rates are essentially unregulated, the RBOCs have both the incentive and the ability to impose a price squeeze on rival CLECs.***

72. But impairment still exists even for services for which AT&T and other carriers are providing today using special access. The reason is that an RBOC can change its wholesale and retail rates at any time, or simply alter the "rate design" for how it prices its special access services. In light of the RBOCs' ability to continually change its prices,, there is simply no way for the Commission to continuously adjust its impairment inquiry to determine on an ongoing basis whether such tactics result in a price squeeze. The Commission would have to be constantly monitoring RBOC special access and retail prices – most of which are no longer regulated and may be modified at the option of the RBOC – to determine whether they were sufficient to allow competitors to profitably offer competing services. In contrast, cost-based UNEs create a level playing field and avoid these administrative burdens.

73. The reason why the RBOCs have the ability to price squeeze rivals that use special access to provide retail telecommunications services is because their special access rates are well above the economic cost of providing this service *and* because those rates, in most cases, are subject to "pricing flexibility" and may be increased by the RBOCs at will. The RBOCs themselves have openly acknowledged this fact. Verizon, for example, stated that its DS-1 prices are at least 35% above TELRIC levels.[63] BellSouth and Qwest likewise acknowledged

63. *See Ex Parte* Letter from Dee May, Verizon, to Marlene Dortch, FCC, at 16 (filed in CC
(continued...)

earlier in this proceeding that their special access rates can be *double* the forward-looking economic cost levels.[64] These concessions are well taken. In his accompanying declaration, Mr. Stith quantifies the extent to which the RBOCs' special access rates are above economic cost by comparing those rates with the TELRIC-based UNE rates set by state commissions for corresponding facilities. Mr. Stith's testimony demonstrates that RBOC special access rates are almost uniformly higher than TELRIC levels and in some instances are more than 150% higher that the RBOCs' UNE rate, which can be taken as a surrogate for the RBOCs' true economic costs.[65] Other carriers have likewise filed evidence that the special access rates they would pay are well in excess of prevailing UNE rates.[66]

74. The RBOCs' ability to price squeeze competitors can also be seen from the difference in how they price services that they sell at retail to end users that incorporate functionalities that are provided to competitors through special access or UNEs, versus how they price those wholesale access services to competitors. As documented in the *Benway et al Declaration*, the RBOCs

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63. (...continued)
Docket No. 01-338, Aug. 13, 2004).

64. *See* Comments of BellSouth, at 3 (filed in CC Docket No. 96-98, Apr. 5, 2001); Comments of Qwest, at 7 (filed in CC Docket No. 96-98, Apr. 5, 2001).

65. *Stith Declaration*, at para. 17.

66. *See Ex Parte* Letter from Michael Pryor, NuVox, to Marlene Dortch, August 19, 2004 ("*NuVox August 19, 2004 ex parte*") Jennings Dec., Tables 2-4 (showing that DS1 EEL rate NuVox currently purchasing is approximately 50% the price of comparable special access rates offered by BellSouth).

typically offer access to retail customers at a price that is far below what the RBOCs charge wholesale competitors for the same access.

75. An RBOC can use the cost differential between what its rivals pay it for high-capacity loop and transport facilities and the lower economic cost that it incurs as a vertically integrated company to foreclose competition.[67] As the Commission has recognized, an

> incumbent LEC could ... set its in-region, interexchange prices at or below its access prices. Its competitors would then be faced with the choice of lowering their retail rates for interexchange services, thereby reducing their profit margins, or maintaining their retail rates at the higher price and risk losing market share."[68]

This strategy may be profitable for the RBOCs, but it will certainly weaken the ability of rivals to compete for local exchange business while enhancing the RBOCs' ability to maintain their monopoly hold over all local services. Similarly, because long distance services provided to enterprise customers rely upon high-capacity facilities that are typically provided only by the RBOCs, the RBOCs foreclose competition for these customers as well.

76. Ultimately, the Commission need not guess about the RBOCs' ability to engage in price discrimination to foreclose competition because there is powerful evidence showing that the

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67. To be sure, the RBOCs have an obligation under 47 U.S.C. § 272(e)(3) to "impute" access prices into the services offered by long distance affiliates. However, the Commission has effectively gutted this requirement by allowing the separate affiliate obligation under section 272 to sunset.

68. *Access Reform Order,* at para. 277.

RBOCs have been doing just that. In accompanying declarations, AT&T's experts testify that, despite having the incentive to offer the full range of local and long distance services that customers seek to buy, there are several local services that AT&T no longer provides because it is simply not profitable to do so in light of the RBOCs' existing special access and competing retail services pricing. In particular, AT&T has effectively abandoned offering certain classes of local private line service, Ethernet service, and "transparent" LAN service.

77. As AT&T shows, competition is simply not possible for many services because RBOC special access services are so high that even an efficient competitor cannot match the RBOC's retail price. Indeed, in many instances the RBOCs' special access rates alone are *higher* than their retail rates for many data services that they offer using the same access facilities making competition mathematically impossible.

78. Another carrier, NuVox, has recently offered complementary evidence showing the potential impact of having to pay above-cost special access services on its finances. According to NuVox, it currently uses DS1-level EELs to provide voice and data services to small and medium sized businesses. Although NuVox purchases some special access, the vast majority of its services are provided using UNEs.[69] According to NuVox's calculations, using special access

69. *See NuVox August 19, 2004 ex parte*, Jennings Dec., at para. 9.

instead of cost-based UNEs would "increase network costs by 53 percent on average and would result in earnings ("EBIDTA") per customer going from positive to negative."[70]

79. To be sure, there are services that AT&T and other carriers offer today using special access, but this certainly does not provide a valid basis for eliminating access to cost-based UNEs going forward. Prior to the RBOCs' enterprise long distance entry which has occurred at a significant scale only very recently, above-cost special access rates did not disable competition because all competitors were paying those rates.[71] As existing contract periods expire, these customers will be up for grabs. And to the extent that competitive carriers are relegated to above-cost special access services, the RBOCs will have the incentive *and the ability* to adjust their retail prices to foreclose competition for these customers. In that regard, I would observe that the various RBOC maps purporting to identify CLEC customer locations being served via special access do not identify the type of service being provided nor the date at which the existing customer contract will terminate. As such, no inference can reasonably be made from the present existence of such customers to the CLECs' ability to retain them in the future in the face of the RBOCs' ability to use their above-cost and flexible pricing of special access to impose a price squeeze upon competing providers.

70. *Id.,* at para. 12.

71. In addition, I understand that the Commission's "use restrictions" effectively prevented CLECs from gaining access to loop-transport combinations as UNEs, even to serve local customers in many situations.

***It is not administratively feasible for the Commission to adjust its impairment inquiry "on the fly" to account for whether the RBOCs are engaging in competition foreclosure.***

80. The *USTA II* court expressly recognized that relegating competitive carriers to special access would potentially subject those carriers to debilitating price squeezes and the burdens that this possibility imposed on the Commission could be sufficiently high that the administrative costs of accounting for special access in the impairment inquiry outweighed any benefit.[72] This is clearly the case here. It is simply not administratively feasible for the Commission to adjust its impairment inquiry "on the fly" to account for whether the RBOCs are engaging in competition foreclosure. There are simply too many ways in which the RBOCs can price squeeze rivals. Indeed, the very possibility of such conduct on the part of the RBOCs will itself operate to impair competitors' ability to attract capital where the risk of anticompetitive responses by the RBOCs could be seen as foreclosing investors' ability to recover their investments in CLEC ventures.

81. As explained above, the RBOCs can foreclose rivals by setting special access prices above economic cost and then setting retail rates that reflect their own much lower economic cost. Under the Commission's *Pricing Flexibility Order*, the RBOCs have the ability to raise special access prices whenever they want in most geographic areas. They also have flexibility to lower retail prices at any time. Any increase in the wholesale rate charged competitors or

72. *USTA II*, 359 F.3d at 575-77 (recognizing categorical rule against considering special access services in impairment inquiry could be justified "based on factors such as administrability, risk of ILEC abuses, and the like").

lowering of the retail rates is directly relevant to whether the RBOCs have effected a price squeeze. The Commission would thus be faced with having to conduct an impairment review every time the RBOC raised its wholesale rates or lowered it retail rates.[73] Among the administrative complexities that this would create is the fact that in some cases the RBOC's retail service may be tariffed at the state level, making it almost impossible for the Commission to "connect the dots" running between the increased *interstate* special access rate and the *intrastate* retail price that may be less than the special access rate that a competing CLEC would be forced to confront.[74]

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73. Indeed, the RBOC can effect a price squeeze without even "raising" rates. It can also do it through rate design. For example, the RBOCs generally have three or more density zones for their special access rates, but have the authority under 47 CFR §69.123(b)(1) to create as many as seven density zones. Such additional deaveraging could potentially increase rates in some areas to levels that made it effectively impossible for some existing services to be provided profitably. Or the RBOCs could change how mileage-sensitive access charges are assessed, which would have the effect of raising the rates for low mileage services versus high mileage services or *vice versa*. Again, even such subtle shifts could potentially raise a rivals' costs in debilitating fashion.

74. Keeping tabs on an RBOC's state tariffs is not a simple task. They vary significantly by carrier within a state and, indeed, even the same carrier does not necessarily file similar rates and tariffs across states. For example, in Massachusetts, Verizon sells digital PBX trunks under the name *Flexpath.* The *Flexpath* service requires a digital port for $357 per month (with term discounts for three and five year contracts – $321 and $285 per month respectively), a digital transport facility for $105.40 per month (with term discounts for three and five year contracts – $94.85 and $84.30 per month respectively), and digital transport for $30 per half-mile (again with term discounts for three and five year contracts – $27 and $24 respectively). Alternatively, *Flexpath* can be replaced with any other Verizon Massachusetts intrastate high capacity service. Verizon specifically identifies the *Integrated Access Service* (IAS) local loop transport service as a viable alternative to the *Flexpath* digital transport facility. IAS is a DS3, OC3 or above SONET-based retail access service that may be used for the provision of multiple different

(continued...)

82. In this regard, I recognize that the *USTA II* court stated that the justifications offered by the Commission in defense of its prior rule – *i.e.*, that consideration of special access tariffs could potentially allow the RBOCs to evade the Act's cost-based pricing obligations – was not sufficient where there is already fierce competition from carriers purchasing services out of special access tariffs and where "there is no claim that ILECs would be able to drastically hike those rates."[75] I assume here that the Court was not holding that the ILECs have no ability to "hike" rates, but only that the Commission had failed to explore the RBOCs' potential ability to do so.

83. Indeed, there is abundant evidence demonstrating that the RBOCs have power to increase their special access rates in the wake of the *Pricing Flexibility Order*. For example, Verizon has been granted Phase II pricing flexibility in all but one (Trenton, NJ) of the "20

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74. (...continued)
services. The month-to-month retail rate for one DS3 is $1,970 (with term discounts for three, five, seven, and ten year contracts – $1,477.50, $1,379, $1,280.50 and $1,182.50 per month respectively). So *Flexpath* could be priced at as much as $762 for a DS1 under month-to-month pricing and assuming five miles of transport) and as little as $610 for a DS1 under a five-year plan also with five miles of transport). Clearly, prices can vary significantly depending upon how the service is ordered even within the same state. (See, New England Telephone and Telegraph, DTE MA No. 10, Part C Section 5, 2nd Revised Sheet 1, Effective 4/11/04. New England Telephone and Telegraph, DTE MA No. 10, Part C Section 6, Original Sheet 1, 2, and 3, Effective 12/20/02. New England Telephone and Telegraph, DTE MA No. 10, Part M Section 3, Original Sheet No. 15, Effective 7/14/99. New England Telephone and Telegraph, DTE MA No. 10, Part M Section 3, 1st Revised Sheet No. 16, Effective 1/20/02.)

75. *USTA II*, 359 F.3d at 576.

MSAs in Verizon's serving area with the largest amount of high-capacity demand."[76] Similarly, of the 20 MSAs included in SBC's August 18, 2004 *ex parte*, all but Orange County, California have achieved Phase II pricing flexibility.[77] On August 16, 2004, Qwest filed rate increases of between 9% and 94% with an average rate increase of 27%, applicable to special access services subject to pricing flexibility.[78] This represents the third major rate hike in less than two years, and the second in the last six months.[79]

84. Further, the RBOCs can also affect a price squeeze by lowering retail rates. Where the RBOCs have priced special access above economic cost, they have the ability to either set retail rates at a "high" level that permits rivals to win customers but earns the RBOCs' high margins on

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76. The Verizon Telephone Companies, FCC Tariff No. 1, Access Service, Section 14.7, Original Page 14-49 through Original Page 14-63; The Verizon Telephone Companies, FCC Tariff No. 11, Access Service, Section 15.3, Original Page 15-19 through Original Page 15-35; *Verizon Petitions for Pricing Flexibility for Special Access and Dedicated Transport Services,* CCB/CPD Nos. 00-24, 00-28, *Memorandum Opinion and Order*, DA 01-663, 16 FCC Rcd 5876 (2001) 5880 at fn 30; *Petition of Verizon for Pricing Flexibility for Special Access and Dedicated Transport Services,* CCB/CPD File No. 00-27, *Memorandum Opinion and Order*, DA 02-706, 17 FCC Rcd 5359 (2002) 5362 at fn 28.

77. Pacific Bell Telephone Company, FCC Tariff No. 1, Access Service, 6th Revised Page 31-3, Effective August 4, 2004; Southern New England Telephone Company, FCC Tariff No. 39, Access Service, 1st Revised Page 24-2, Effective August 4, 2004; Ameritech Operating Companies, FCC Tariff No. 2, Access Service, 3rd Revised Page 689, Original Page 689.1, Effective August 4, 2004; Southwestern Bell Telephone Company, FCC Tariff No. 73, Access Service, 3rd Revised Page 39-3, Effective August 4, 2004.

78. *Qwest Corporation Transmittal No. 206*, Petition of AT&T Corp., August 28, 2004 ("*AT&T Petition to Investigate Transmittal No. 206*"), at 2.

79. *AT&T Petition to Investigate Transmittal No. 206*, at 1.

both sales of special access and retail services, or set retail rates at "low" levels that prevent competition in light of prevailing special access prices. Thus, even to the extent that the RBOCs special access prices were fixed, it does not follow that a price squeeze is not possible because the RBOCs also have unfettered control to change their retail rates.

85. Here, history provides a powerful example of the RBOCs' ability to change overnight its rate structure from one that allows competition to flourish to one that forecloses competition altogether. After SBC was granted authority to provide long distance telephone service in the SBC territories, SBC entered the mass market long distance customers and charged rates that were generally competitive with prevailing long distance carriers' prices. As discussed in an accompanying declaration, SBC, not content with the share it gained from this pricing, in March of 2003, began offering pricing plans in which long distance service was provided at rates that were, in some cases, less than half the lowest prevailing long distance rates.

86. SBC was able to offer these low rates because of its access charge advantage – or, more specifically, because as a practical matter it does not pay access charges for any call originations or terminations within the full thirteen state SBC footprint. Specifically, because SBC has a monopoly share of local service customers throughout each state in which it offers long distance service, the SBC enterprise as a whole does not incur the "switched access," "special access," and other charges that SBC imposes on its long distance competitors when they originate or terminate calls to these customers because, while SBC's long distance entity nominally "pays" access charges, for the most part these "payments" are made from one SBC "pocket" to another

SBC "pocket." At the same time, the costs of switched and special access services constitute a substantial percentage of the overall cost of long distance services. For example, AT&T reported that for 2003 it had spent some $10.7-billion on services – primarily switched and special access – purchased from other carriers, representing some 42% of total cash operating expenses.[80]

87. Critically, even to the extent that competitive carriers were able to obtain "UNE-P" at truly economic costs and obtain originating access at economic cost, SBC still enjoys an artificial cost advantage with regard to offering long distance services. Competitive carriers ordinarily have to pay terminating access for their customer's calls because it is very infrequent that one of their local customers makes a long distance call to another local customer of that carrier. On the other hand, it is quite often the case that for SBC – with its monopoly customer base across 13 states, representing approximately 40% of the total U.S. population – to have one of its customer call another one of its customers. In such circumstances, SBC effectively avoids above-cost terminating access charges, instead incurring only the lower economic cost.

80. *See,* UBS, *How Access Charges Determine Winners and Losers in Telecom Services*, at 22 (April 2, 2004) ("In many instances, the special access circuits required to connect the end user to the IXC network represent the majority of the total cost of the circuit. That is more than 50% of the total cost of a frame relay drop or private line circuit is represented by the cost of the last mile that the IXCs must pay to the ILECs."); *see also* AT&T Corp. Consolidated Statement of Income (Unaudited), 7/22/04, http://www.att.com/ir/xls/2q04_financials_.xls ("IS Quarterly" Tab), accessed 9/29/04. Total cash operating expenses are total operating expenses minus depreciation.

88. The Commission now knows full well the results of the efforts of SBC and similar conduct by the other RBOCs. SBC and Verizon have in a few short years gone from zero market share to being the dominant mass market long distance providers in their territories. For example, as of the end of 2003, Verizon had amassed a 61% market share in New York and a 52% share in Massachusetts. Similarly, SBC had achieved a nearly 60% market share in Texas.[81] At the same time, AT&T – the company with the largest share in these states prior to the RBOCs' entry – has announced that it will cease marketing residential long distance services throughout the nation. This is the most powerful evidence that the RBOCs can *at any time* undertake a campaign to eliminate competition by lowering retail rates to levels that rivals cannot match due to the RBOCs' above-cost access rates. The RBOCs are no more efficient in the production of long distance services than the preexisting interexchange carriers since, for the most part, the RBOCs are *reselling* long distance services purchased from interexchange carriers. Hence, whatever "efficiencies" they bring to the retail market are solely the result of their legacy incumbency advantages – their access services monopoly and their unique ability to engage in joint marketing of retail local services, which the RBOCs overwhelmingly dominate, and the (formerly) competitive retail long distance market, which the RBOCs are rapidly coming to dominate.[82]

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81. Verizon January 29, 2004 Securities Analysts Briefing; SBC Analyst Conference 2003, at slide 10, available at: http://www.shareholder.com/sbc/downloads/AnalystPres_nov03.pdf.

82. Several RBOCs executives have recently advised investors that they expected to get back most of the residential customers lost to CLECs since 1996. "Baby Bells see rivals taking fewer phones," Reuters, Sept. 9, 2004.

89. It is also the case that evaluating whether the RBOC has engaged in competition foreclosure is a substantial undertaking requiring significant resources and time. In this regard, and as explained in greater detail below, it must be emphasized that RBOC special access and end user prices are often customer-specific, service-specific, and location-specific. Thus, in the event that the Commission would account for access services in its impairment analysis, it would potentially have to evaluate whether the RBOC is undertaking a price squeeze not only for classes of service and customers, but for discrete customer segments including individual customer locations.

90. Specifically, in order for the Commission to determine whether competitors can "flourish" despite having to pay above-cost access charges, the Commission would need to evaluate whether an efficient competitor could profitably match an RBOC's retail rates for local and/or long distance services. At a minimum, such an analysis requires the Commission to (1) determine the special access prices that each ILEC charges competitors and (2) compare that to the ILECs' retail prices which may be tariffed at either the state or federal level, or in some cases not tariffed at all. It is simply not feasible to undertake this comparison for the entire array of services offered by the RBOC using special access facilities in sufficient time that the Commission could adjust its impairment rules quickly enough that competitive carriers would have a meaningful opportunity to win customers.

91. In order to determine the price of special access services used in the retail service at issue it is first necessary to identify the relevant special access tariffs. The RBOCs provide

interstate special access and intrastate special access and private line services. In the case of the intrastate special access tariffs, each RBOC files a different tariff in each state in which it offers that service. Thus, in evaluating price squeeze claims, the Commission will not only need to examine and analyze federal special access tariffs, but multiple state tariffs as well.

92. Simply locating and understanding the relevant special access tariffs, of course, is only the start of the exercise. It is then necessary to determine the special access rates that apply to the service at issue. Such calculations cannot be made generically, for the RBOCs provide numerous retail services using special access as an input. As explained in the accompanying Benway *et al* declaration, special access is used as an input to provide, *inter alia*, private line service, local voice, long distance voice, ATM, Frame Relay, Virtual Private Network service. The cost of special access relative to the total cost of the retail service varies for each of these services. And even with respect to a particular service, the price of special access utilized to provide that service will vary dramatically depending on a host of factors.

93. In fact, there are literally thousands of unique price points in RBOC special access tariffs (which themselves run thousands of pages).[83] For example:

(1) RBOC special access prices vary depending upon the capacity level of the circuit involved (e.g., DS-1, DS-3, OC-12).

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83. *See*, e.g., BellSouth FCC Tariff No. 1, § 7; Pacific Bell FCC Tariff No. 1, § 7; Southwestern Bell Tel. Co. FCC Tariff No. 73, § 7; Verizon Tel. Cos. FCC Tariff No. 1, § 7; Qwest Corp. FCC Tariff No. 1, § 7.

(2) RBOC special access prices vary depending upon whether the circuit is a channel termination or a transport circuit.

(3) RBOC special access prices vary depending upon whether the circuit is located in a pricing flexibility MSA or in a non-pricing flexibility area.

(4) RBOC special access prices vary depending upon the density zone of the wire center in which the circuit is located.

(5) RBOC special access prices vary depending upon whether the carrier has agreed to a volume and term commitment.

(6) RBOC special access prices vary depending upon whether a carrier has agreed to "lock-up" a certain level of traffic with the RBOC (something that, for example, an RBOC affiliate could easily agree to, since any "penalty" for noncompliance with the committed level of demand would be yet another one-pocket-to-another-pocket transaction).

(7) In the case of the transport element, RBOC special access prices vary depending upon the length of the circuit.

(8) RBOC special access prices vary depending upon whether the circuit will be used for purely in-state, local service or will be used to carry some interstate service.

(9) Different non-recurring charges and/or termination liabilities will apply to different special access services (which must be amortized over the expected life of the customer).

Each of these factors must be analyzed in order to determine what the special access rate is for a particular circuit. And in the case of calculating the special access costs that a carrier incurs in serving multi-location customers, such determinations may need to be made for special access services provided by several RBOCs.

94. Efforts to determine the retail price of the RBOC service are likely to be even more complex. Not only do the RBOCs' retail rates vary according to factors similar to those just discussed,[84] retail services include rate elements and features beyond the basic channel terminations and transport ordinarily purchased in special access tariffs. For example, data

84. *See, e.g.*, SBC Long Distance Voice Product Reference and Pricing Guidebook for Interexchange, Interstate and International Voice Services (available at http://www.sbc.com/gen/public-affairs?pid=320); SBC Long Distance Data Product Reference and Pricing Guidebook for Interstate Data Services and International Data Services (available at http://www.sbc.com/gen/public-affairs?pid=319); BellSouth Long Distance Inc. Business Services Pricing and Service Guide (available at http://www.tariffs.net/tariffs/481/Bus_Pricing_Guide.pdf); Complex Business Services Interstate Pricing Guide (available at http://www.tariffs.net/tariffs/481/Complex_Services_Guide_071504.pdf).

services like ATM and Frame Relay include port charges. RBOC retail prices will also often vary based upon the extent to which a customer has locations in the RBOC's territory – a fact that powerfully reflects the influence of above-cost special access pricing. Because the Commission has detariffed long distance services, the RBOCs can offer customized deals. Thus, in many cases, the precise terms of the RBOCs' retail offers are not publicly available. RBOC local retail offerings are contained in state tariffs or are themselves detariffed, conditions that would also need to be separately analyzed.

95. This comparison of the RBOCs' special access rates and retail rates, however, is only the first step in the price squeeze analysis that the Commission must undertake if it were to deny competitive carriers access to cost-based loop and transport UNEs. Although RBOC special access rates in excess of retail prices conclusively establishes a price squeeze, a price squeeze is still possible even where retail rates are above special access rates. That is because for most retail services, special access is only one of several inputs necessary to provide the service. Thus, the RBOC can still foreclose competition where it sets a retail price above special access, but still not sufficiently high so as to provide competitors with the opportunity to recover their other efficient costs of providing the retail service.

96. Most obviously, providing finished retail local and long distance services requires that the CLEC acquire network facilities of its own, beyond the loop and transport facilities it will need to obtain from RBOCs. For example, long distance services require a long haul network. Likewise, ATM services require investment in a packet switching network. Of course, a carrier

must also incur costs in connection with planning, operating, and maintaining those facilities. In order to provide retail services, a carrier must also market to customers, provide customer care, and billing. All of these "back office" costs are actual costs incurred by efficient carriers and must be reflected in any price squeeze analysis. Thus, the Commission will necessarily be required to examine *all* of the costs that a carrier incurs beyond special access to provide local and long distance service.

97. In short, even if it could be assumed that the RBOCs currently were not price-cost squeezing competitors today – and, as explained above, the evidence is clearly to the contrary – reflecting the availability of special access services in its impairment inquiry would put the Commission in the position of having to continuously evaluate whether the RBOCs have set special access and retail rates at levels that forecloses competition, and permit access to UNEs wherever the RBOCs have done so. While such inquiries can be made in specific cases, it is simply not feasible to do so perpetually for the entire industry given the range of services and carriers involved, the myriad ways in which the RBOCs can alter their rates, and the significant informational demands attendant to any price squeeze calculation.

98. For these same reasons, it is no answer to say that the Commission could address this issue in after-the-fact complaint proceedings. As discussed, the informational demands attendant to price squeeze determinations would place a substantial burden on CLECs. Many CLECs simply lack the resources to pursue such claims. Indeed, because RBOC retail rates are often not publicly available, CLECs will often lack the ability to determine whether the price the RBOC

charged was one that it could have profitably matched given the access charges it was paying. Finally, and most importantly, the point of the 1996 Act is to create a regulatory structure that enables competition, not merely to create an after-the-fact cause of action for price squeezes.

***The apparently successful use of high capacity special access facilities by wireless carriers provides no basis for the inference that CLECs can similarly "flourish" if forced to pay special access prices if their access to UNEs is foreclosed.***

99. In its *ex parte* filing, Verizon cited the DC Circuit Court's March 2, 2004 ruling as observing that "[w]here competitors have access to necessary inputs at rates that allow competition not only to survive but to flourish, it is hard to see any need for the Commission to impose the cost of mandatory unbundling."[85] Verizon fails to mention, however, that the cited observation was made by the Court in the context of its discussion of "Wireless providers' access to unbundled dedicated transport" where, among other things, the Court had noted that:

> ... the data above [referring solely to wireless carriers] clearly show that wireless carriers' reliance on special access has not posed a barrier that makes entry uneconomic. Indeed, the multi-million dollar sums that the Commission regularly collects in its auctions of such spectrum, and that firms pay to buy already-issued licenses, seem to indicate that wireless firms currently expect that net revenues will, by a large margin, more than recover all their non-spectrum costs (including return on capital).[86]

85. *Verizon July 2, 2004 ex parte*, at 5, citing *USTA II*, 359 F.3d at 576.

86. *USTA II*, 359 F.3d at 575-576, citations omitted.

Significantly, and also left unmentioned by Verizon, the Court made no comparable observations or performed any comparable analyses as to the current state of *wireline* competition or of the CLECs that are attempting to compete in the enterprise market. The Court made no findings that wireline CLECs are "flourishing," that any had paid multi-million dollar sums for a franchise to operate, or that multi-million dollar premiums had been paid by wireline CLECs to acquire other wireline CLECs then already engaged in business. Indeed, there is no factual basis upon which the conclusion that wireless carriers are "flourishing" could be extrapolated as also applying to *wireline* CLECs.

100. In view of Verizon's attempt to finesse the Court's conclusions as to the state of competition in the *wireless* market over to the wireline market where the current state of competition is anything but "flourishing," it may be useful to highlight the stark differences between these two segments and, in particular, the nature of their respective use of high capacity facilities.

101. To begin, with the exception of the *lilliputian* out-of-region RBOC CLEC token ventures,[87] CLECs are not owned by the RBOCs from whom they purchase essential services either as UNEs or as special access – such purchases in all cases involve the payment of *cash* by

87. Verizon, for example, concedes that it is currently serving only 500 enterprise customers outside of its ILEC footprint. *Verizon July 2, 2004 ex parte*, Attachment 2, Declaration of Claudia P. Cuddy, at para. 13. Verizon makes no other disclosures regarding such customers as to, for example, the quantity of the service being provided, or whether such customers are themselves Verizon affiliates.

the CLEC to the RBOC. The two largest wireless carriers – Verizon Wireless and Cingular – by contrast, are *owned or controlled by RBOCs.* As such, their "purchases" of special access or other services either involve intracorporate transfers between the wireline and wireless affiliates, or are cross-transactions involving the same pair of companies (i.e., Verizon Wireless purchases special access services from SBC or BellSouth, while at the same time the SBC/BellSouth wireless entity – Cingular – purchases special access services from Verizon). Rather than disadvantage the RBOC-owned wireless carriers, the requirement that they pay special access rates rather than the lower UNE rates simply raises costs for their non-RBOC rivals (Sprint, Nextel and T-Mobile). It is hardly surprising that the RBOC-owned wireless carriers were entirely silent as to the issue of wireless carrier access to UNEs rather than being required to pay special access rates for the dedicated facilities they use to connect transceiver sites to their mobile telephone switching offices ("MTSO") and to interconnect those MTSOs.[88]

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88. Both AT&T Wireless and Nextel filed comments in CC Docket No. 01-338 arguing that "The Commission should clarify that CMRS providers are entitled to purchase UNEs and convert existing special access facilities to UNEs without termination liability." (See *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange* Carriers, CC Docket No. 01-338; *Implementation of the Local Competition Provisions of The Telecommunications Act of 1996*, CC Docket No. 96-98; *Deployment of Wireline Services Offering Advanced Telecommunications Capacity*, CC Docket No. 98-147, The Comments of AT&T Wireless, filed 04/05/02, at 23. Also see (in the same proceeding), Comments of Nextel Communications, Inc., filed 04/04/02, at 2.) Interestingly, both SBC and BellSouth filed comments stating that wireless carriers should not have access to UNEs. According to SBC, "[e]xactly the same analysis should govern the potential use of UNEs by providers of wireless service. Wireless carrier competition has clearly not been impaired by the unavailability of UNEs to carriers in that market." (See *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange* Carriers, CC Docket No. 01-338; *Implementation of the Local Competition Provisions of The Telecommunications Act of 1996*, CC Docket No. 96-98; *Deployment of Wireline Services*
(continued...)

102. Wireless carriers need to utilize high-capacity facilities to connect their switching offices ("MTSOs") with their individual "cell sites" at which transmitters, receivers and antennas are located, and to interconnect their MTSOs with each other. While undeniably essential to the wireless carriers' operations, these facilities form part of the common wireless network and are not provided for or dedicated to any individual customer or specific group of customers. Importantly, while the total expenditure on special access facilities may be large in absolute terms, it is a tiny fraction of the wireless carrier's total operating costs. For example, according to AT&T Wireless' Annual Report to Shareholders, in 2001 the carrier spent a total of $300 million on special access services, representing approximately 2.31% of its $13.0 billion in total operating costs.[89] Indeed, in 2003 its special access costs ($198 million) represented approximately 1.28% of its $15.5-billion in total operating costs.[90] To put this in context, AT&T

88. (...continued)
*Offering Advanced Telecommunications Capacity*, CC Docket No. 98-147, Comments of SBC Communications Inc., filed April 5, 2004, at 24. Also see (in the same proceeding), Comments of BellSouth Corporation, filed April 8, 2002, at 46-53.)

89. AT&T Wireless, 2001 Annual Report to Shareholders, released 3/28/02, at 24 and 46.

90. In 2001 AT&T Wireless spent approximately $300-million on special access services, representing approximately 2.31% of its $13-billion in total operating costs. AT&T Wireless did not present Dedicated Transport Lease Obligations for the year ending 2002. As noted, AT&T Wireless identified its 2003 Dedicated Transport Lease Obligations as $198-million. In 2004 AT&T Wireless puts its lease obligation at$222-million, representing approximately 1.39% of its annualized $15.9-billion in total operating costs. AT&T Wireless, 2001 10K Report, March 28, 2002; AT&T Wireless, 2001 Annual Report; AT&T Wireless, 2003 10K Report, March 5, 2004; AT&T Wireless, 2002 Annual Report; AT&T Wireless, Second Quarter 2004 10Q Report, August 6, 2004; AT&T Wireless, 2003 Annual Report.

Wireless reported SG&A expenses for 2003 at $5.4-billion, i.e., roughly 27 times its special access outlays.

103. Contrast this to the situation confronting a CLEC. Segments of a high-capacity UNE-loop or its special access counterpart – a Channel Termination – are dedicated to one specific customer or to a specific group of customers sharing the same route or route segment. The same is also true of the dedicated interoffice transport connections that are used to link the wire center serving the customer's premises with the CLEC's fiber ring or other facility. Depending upon the service involved and the basis under which it is obtained (i.e., UNE or special access), the out-of-pocket cash payment to the ILEC for the loop and transport facilities may represent the majority of the total revenue from that customer, which revenue must also cover the CLEC's own network costs, customer acquisition and customer service costs, and various other expenses. If by virtue of having to pay special access rates rather than the considerably lower TELRIC-based UNE rates for the same underlying facility, the CLEC may find it unprofitable to serve many otherwise potential customers, its ability to address such customers and to compete for their business would be impaired by the nonavailability of UNEs.

104. Quite obviously, the RBOCs' ability to price squeeze competitors using special access diminishes to the extent that special access represents only a small fraction of the cost of the service. As AT&T shows, special access is a significant portion of the cost of the retail services it offers to business customers. Indeed, in the specific price squeeze examples identified by AT&T, special access accounts for the majority of the overall costs of the service.

105. In contrast, wireless services use special access in a far more limited way. Thus, wireless carriers do not need to lease "loops" from the RBOCs to provide service to individual customers, and need only a relatively short transport piece that is shared by multiple users. Moreover, because wireless carriers utilize these services to interconnect their own fixed-location cell sites with their own fixed-location central offices and not to provide permanent connections to individual customer locations, they are able more easily to utilize long-term special access contract rates involving volume and term commitments that may not be practical for many wireline carriers that provide service to specific retail end-user locations.

106. This different use of special access has competitive significance for a second reason. In order to serve a new customer using special access, a competitive carrier typically purchases a special access channel termination specifically to serve that customer (and often purchases special access transport specifically for the customer). In other words, special access is incremental to the customer. In contrast, special access is effectively a fixed, common network cost for wireless carriers. The addition or subtraction of any particular customer does not ordinarily cause the wireless carrier to change its special access purchases. Indeed, even for cell sites that have little usage, it must have some minimum capacity available. This difference means that a special access price squeeze has a more immediate impact in the case of wireline carriers. To the extent that special access costs are fixed, a price squeeze will not affect a wireless carrier's near-term pricing decisions. On the other hand, where special access costs are incremental to providing service to a specific customer, the impact of those pricing has immediate effect on the purchaser's pricing decisions.

107. Finally, although the Court has found that wireless carriers in general are successfully competing with one another using special access instead of UNEs, it cannot be established that this is the case for all wireless carriers – specifically those *not* owned or controlled by RBOCs themselves. RBOC-affiliated CMRS carriers' shares of the overall wireless market have, in fact, been increasing, while those of their non-affiliated rivals have been on the decline.

**Cable and fixed wireless do not present a serious competitive challenge to the RBOC special access monopoly as a means for serving enterprise customers.**

108. In addition to incorrectly counting "route miles of fiber" and lit buildings, Verizon appears to have incorrectly relied upon the NPRG metric for "route miles" by assuming that "route miles" means "route miles of fiber." They do not. Specifically, NPRG defines route miles as the "number of geographic miles covered by a communications network as it would appear on a network map,"[91] and appears to apply this term to whatever transmission technology the carrier may be using (i.e., fiber, coax, fixed wireless, etc.). As a result, the NPRG figures make no distinction between a fiber network or any other type of telecommunications network. Such a distinction is crucial to assessing competitive facilities capable of serving enterprise customers, since both coaxial and fixed wireless are not acceptable substitutes for enterprise customers seeking service over fiber routes.

91. New Paradigm Research Group, CLEC Report 2004, Chapter 9 at 19.

109. Fixed wireless began in the late 1990s as a highly touted technology, and like many of the other "technologies *du jour*" it has not lived up to its expectations.[92] It was believed that the technology could drastically alter how telecommunication networks are set up – fixed wireless completes loops by providing the last mile of connectivity to buildings over a wireless network. However, in practice, the technology has been bogged down with operational troubles including both security and transmission problems since its inception. According to Network World Fusion, an on-line network research firm, "[T]here are important issues that network executives will need to resolve before signing up for fixed wireless, including security and possible performance degradation from interference with other service providers."[93] Both of these issues, but especially security, are imperatives for large business users. As a result of these concerns, the technology is not yet (and may never be) a reasonable replacement for business applications.

110. Fixed wireless has not become an entry strategy for CLECs or ISPs entering the enterprise market because it creates a network which is less reliable and difficult to secure.[94]

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92. In the late 1990s and early 2000, overzealous analysts and technology research firms predicted enormous growth potential for fixed wireless. According to one article from Wireless Week (September 2000), "The Strategis Group forecasts fixed-wireless sales growing at a compounded annual rate of 77 percent, moving from $231 million in 2000 to $2.3 billion by 2004. And Ovum suggests the equipment market could reach $7 billion by 2005."

93. http://www.nwfusion.com/techinsider/1022broadband/feat.html, accessed 9/28/04.

94. Some ISPs provide fixed wireless Internet in urban areas to the mass market. However, fixed wireless mostly began to find inroads in rural areas (even remote islands) where DSL hasn't been deployed to yet. In these remote areas, most of the marketing is to the mass market but also to a small degree to small businesses. See Network World Fusions, "Fixed Wireless Fills a
(continued...)

According to Air2Web, a wireless solutions provider, "security in the wireless world is more complex and different than tethered network security models. Wireless security measures hinge on the types of data and applications being mobilized. The more sensitive the data, the more elaborate security measures must be."[95] And still, regardless of the type of network (whether is an older technology like LMDS or MMDS, or a newer technology like Wi-Fi), it is relatively easy for people to tap into these networks. "Researchers at the University of California at Berkeley have found flaws in the 802.11 WEB [Wi-Fi] algorithm and claim it is not capable of providing adequate security"[96] In addition, Broadband Wireless Business Magazine reports, "Wireless security is a mounting problem…'In security, there is no magic pill. Every wireless transmission is a virtual postcard, potentially viewable by anyone.'"[97]

111. In addition to security issues, fixed wireless also struggles with connection problems because the technology generally requires unobstructed line-of-sight transmission. This means that all of the microwave dishes tend to be set up in the same places, namely on top of towers or hillsides. The conglomeration of dishes in one location creates interference problems. According to Network World Fusion, "radio frequency interference from competing systems

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94. (...continued)
Niche," which discusses fixed wireless's success on the British Virgin Island of Anguilla.

95. http://www.air2web.com/security_whitepaper.jsp, accessed 9/27/04.

96. http://www.nwfusion.com/techinsider/1022broadband/feat.html, accessed 9/28/04.

97. http://www.shorecliffcommunications.com/magazine/volume.asp?vol=29&story=291, accessed 9/27/04.

causes problems for service providers and end users. An interfering signal of one wireless system will corrupt and sometimes block transmission of another wireless system, causing significant performance degradation."[98] Line-of-sight fixed wireless connectivity is also susceptible to atmospheric or other electromagnetic interference, such as fog, rain, and sunspots.[99] When real-time communication is essential, this technology is a liability.

112. Competition dictates the use of the most efficient technology. If corporations don't compete, they won't survive. As such, large corporations need to protect their important proprietary information such as financials , patents, new products, new technologies, and marketing ideas. They also need to be able to communicate and transmit information in real-time without interference. Fixed wireless currently does not allow for this to happen. Due to the problems described above, fixed wireless remains an insignificant technology in the enterprise market. In fact. the most recent statistics regarding the deployment of fixed wireless lines support this belief. Current deployment in the enterprise market is minimal – 25,254 lines across

98. http://www.nwfusion.com/techinsider/1022broadband/feat.html, accessed 9/28/04.

99. Fixed wireless technology is subject to interference from a number of sources. Attenuation due to rain and fog is a concern, particularly in frequencies above 11 Ghz. Fog, in combination with other atmospheric conditions can more adversely affect signals. Wind or building sway can also negatively affect signal strength. See, Cisco Systems, *Cisco Broadband Fixed Wireless Site Planning Guide.* Available at http://www.cisco.com/univercd/cc/td/doc/product/wireless/bbfw/ptop/p2pspg02/spg02prf.htm (accessed September 29, 2004); Winstar, Government Solutions Wireless Fiber Presentation, http://www.inetdaemon.com/tutorials/theory/concepts/media.html (accessed September 29, 2004)

the country.[100] To understand the magnitude of this figure, assume that all of those fixed wireless lines were used as special access lines. The resulting total number of special access lines (measured in voice grade equivalents) reported as of the end-of-year 2003 was 118,629,181 lines.[101] So fixed wireless would then account for 0.02% of the total market for special access, and that 0.02% share has remained virtually unchanged over the past three years.[102] Clearly, these data confirm that the enterprise market is not using this technology.

113. Cable television companies ("cable") have been portrayed by the RBOCs to be a formidable source of competition, and arguably they have been the most significant facilities-based alternative to the RBOCs with respect to mass market (principally residential and "home business") services.[103] However, cable is not well positioned to meet the connectivity

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100. Industry Analysis and Technology Division, Wireline Competition Bureau, High Speed Services for Internet Access: Status as of December 31, 2003 (June 2004 Report).

101. ARMIS Report 43-08, Operating Data Report, Table 3, YE 2003.

102. Share was calculated using: Industry Analysis and Technology Division, Wireline Competition Bureau, High Speed Services for Internet Access: Status as of December 31, 2003 (June 2004 Report); and Federal Communications Commission, ARMIS Report 43-08, Operating Data Report, Table 3, YE 1999-2003.

103. The Ad Hoc Telecommunications Users Committee discussed these issues in greater detail in comments filed in the FCC's broadband services proceeding. See, for example, *Competition in Access Markets: Reality or Illusion*, *Ex Parte* Submission of the Ad Hoc Telecommunications Users Committee in CC Docket Nos. 03-173, 01-338, 04-242, RM-10329, 00-229, 96-149, 98-141, 96-98, 98-147, 00-51, 98-10, 01-321, 95-20, 02-33, 04-36, 01-337, 00-175, 02-112, RM-10593, filed August 26, 2004, at 17-19; and Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services, CC Docket No.

(continued...)

needs of large business users, for several reasons. First, the networks constructed by cable companies are largely designed to reach residential dwellings, not business locations. With the possible exception of local retail shopping areas interspersed within or adjacent to residential neighborhoods, cable infrastructures generally do not "pass" business locations and thus cannot readily serve the vast majority of office buildings and other business sites. In the context of its monitoring of advanced services deployment, the FCC found that:

> Residential and small business subscribers, not surprisingly, account for over 96 percent of the reported high-speed lines delivered over cable systems. This is consistent with our understanding that most cable systems are currently deployed in primarily residential areas.[104]

114. In addition, because cable companies are primarily oriented towards a mass-market customer base, their telephony and data (i.e., cable modem) offerings generally fall short of RBOC offerings with respect to service reliability and security. Cable networks do not have the same degree of back-up electrical power as do typical ILEC networks, and the "shared platform" nature of cable modem service raises data security and transmission performance issues that are particularly important to business customers, who routinely transmit highly sensitive or mission-critical financial and commercial data.

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103. (...continued)
01-337, Reply Comments of Ad Hoc Telecommunications Users Committee, filed April 22, 2002, at 4-6.

104. Inquiry Concerning the Deployment of Advanced Telecommunications Capability, CC Docket 98-146, Third Report, FCC No. 02-33, 17 FCC Rcd 2844 (2002) at 2864, para. 45 (footnotes omitted).

115. Given the shortcomings of CATV-provided business services, it is not surprising that cable providers reported supplying fewer than 20,000 coaxial cable connections to medium and large businesses nationwide at the time the FCC reached its conclusions in the *Triennial Review* proceeding, and report less than 30,000 such connections today.[105] Considered in relation to the roughly three million commercial buildings, these connections represent less than one percent of potentially addressable business locations. Clearly, cable has thus far had minimal impact upon the RBOCs' virtual monopoly on connectivity supplied to large businesses, and this situation appears unlikely to change any time soon.[106]

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105. *Triennial Review Order* at 18 FCC Rcd 17010, para. 41. Citing Industry Analysis and Technology Division, Wireline Competition Bureau, High Speed Services for Internet Access: Status as of June 30, 2002, rel. December 2002. Analysis of the most recent IATD report reveals that for the period ended December 31, 2003, 5-million high speed coaxial cable connections serving new residence and small business cable high speed connections were added, and that only approximately 3,400 new coaxial cable connections were added that served large business subscribers, with the total number of high speed cable connections to large business users still less than 20,000 in total. See, Industry Analysis and Technology Division, Wireline Competition Bureau, High Speed Services for Internet Access: Status as of December 31, 2003, rel. June 2004 ("High Speed Services for Internet Access: December 31, 2003"); and Industry Analysis and Technology Division, Wireline Competition Bureau, High Speed Services for Internet Access: Status as of December 31, 2002, June 2003.

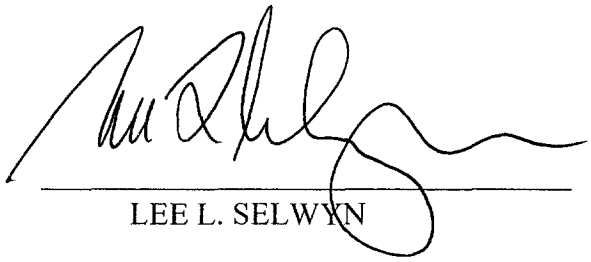
106. A report issued by Cahners In-Stat Group claims that businesses account for only 5% of cable modem subscribers, and penetration is only expected to increase to 10% by 2005. See, Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services, CC Docket No. 01-337, AT&T Comments, filed April 22, 2002, at p. 41 (citing Cahners In-Stat Group, Despite Service Provider Pratfalls, Cable Modem Subscriber Growth Remains Robust, December 1, 2001, at p. 1).

## CONCLUSION

116. In the *TRO*, the Commission recognized the substantial variation confronting CLECs in the economics of serving enterprise customers at different capacity levels, and addressed those concerns by making national findings that CLECs are generally impaired without access to UNEs when providing service to customers at capacity levels below three DS-3s for enterprise loops and for interoffice transport facilities at capacity levels at or below twelve DS-3s. The RBOCs' "evidence" fails to differentiate among the various capacity-based segments of the enterprise market, and thus fails to address – let alone challenge – these critically important *TRO* conclusions. Virtually all instances of CLEC fiber connections to customer premises are at the OCn level; even where CLEC fiber passes near or even directly in front of a building where the customer demand falls below that threshold, the costs of bringing the fiber into the building cannot be justified. The RBOCs' claims as to non-impairment with respect to interoffice transport relies entirely on an utterly fanciful portrayal of ubiquitously interconnected but utterly nonexistent CLEC fiber backbone networks. Finally, the RBOCs' claims as to the suitability of special access as a substitute for UNE loop and transport facilities ignores the fact that special access services are not subject to any effective rate regulation, are priced well in excess of forward-looking economic cost, may be and are being increased at the whim of the RBOCs, and have created persistent price squeeze conditions that have forced CLECs to abandon large segments of the enterprise market. None of the "evidence" proffered by the RBOCs undermines the Commission's original *TRO* determinations, and those impairment findings should be maintained in the permanent rules that the Commission adopts.

VERIFICATION

I declare under the pains and penalties of perjury that the foregoing statements are true and correct to the best of my knowledge, information and belief.



LEE L. SELWYN

# Attachment 1

# Statement of Qualifications

# Dr. Lee L. Selwyn

ECONOMICS AND
TECHNOLOGY, INC.

# DR. LEE L. SELWYN

Dr. Lee L. Selwyn has been actively involved in the telecommunications field for more than twenty-five years, and is an internationally recognized authority on telecommunications regulation, economics and public policy. Dr. Selwyn founded the firm of Economics and Technology, Inc. in 1972, and has served as its President since that date. He received his Ph.D. degree from the Alfred P. Sloan School of Management at the Massachusetts Institute of Technology. He also holds a Master of Science degree in Industrial Management from MIT and a Bachelor of Arts degree with honors in Economics from Queens College of the City University of New York.

Dr. Selwyn has testified as an expert on rate design, service cost analysis, form of regulation, and other telecommunications policy issues in telecommunications regulatory proceedings before some forty state commissions, the Federal Communications Commission and the Canadian Radio-television and Telecommunications Commission, among others. He has appeared as a witness on behalf of commercial organizations, non-profit institutions, as well as local, state and federal government authorities responsible for telecommunications regulation and consumer advocacy.

He has served or is now serving as a consultant to numerous state utilities commissions including those in Arizona, Minnesota, Kansas, Kentucky, the District of Columbia, Connecticut, California, Delaware, Maine, Massachusetts, New Hampshire, Vermont, New Mexico, Wisconsin and Washington State, the Office of Telecommunications Policy (Executive Office of the President), the National Telecommunications and Information Administration, the Federal Communications Commission, the Canadian Radio-television and Telecommunications Commission, the United Kingdom Office of Telecommunications, and the Secretaria de Comunicaciones y Transportes of the Republic of Mexico. He has also served as an advisor on telecommunications regulatory matters to the International Communications Association and the Ad Hoc Telecommunications Users Committee, as well as to a number of major corporate telecommunications users, information services providers, paging and cellular carriers, and specialized access services carriers.

Dr. Selwyn has presented testimony as an invited witness before the U.S. House of Representatives Subcommittee on Telecommunications, Consumer Protection and Finance and before the U.S. Senate Judiciary Committee, on subjects dealing with restructuring and deregulation of portions of the telecommunications industry.

In 1970, he was awarded a Post-Doctoral Research Grant in Public Utility Economics under a program sponsored by the American Telephone and Telegraph Company, to conduct research on the economic effects of telephone rate structures upon the computer time sharing industry. This work was conducted at Harvard University's Program on Technology and Society,

where he was appointed as a Research Associate. Dr. Selwyn was also a member of the faculty at the College of Business Administration at Boston University from 1968 until 1973, where he taught courses in economics, finance and management information systems.

Dr. Selwyn has published numerous papers and articles in professional and trade journals on the subject of telecommunications service regulation, cost methodology, rate design and pricing policy. These have included:

"Taxes, Corporate Financial Policy and Return to Investors"
*National Tax Journal*, Vol. XX, No.4, December 1967.

"Pricing Telephone Terminal Equipment Under Competition"
*Public Utilities Fortnightly*, December 8, 1977.

"Deregulation, Competition, and Regulatory Responsibility in the Telecommunications Industry"
*Presented at the 1979 Rate Symposium on Problems of Regulated Industries - Sponsored by: The American University, Foster Associates, Inc., Missouri Public Service Commission, University of Missouri-Columbia*, Kansas City, MO, February 11 - 14, 1979.

"Sifting Out the Economic Costs of Terminal Equipment Services"
*Telephone Engineer and Management*, October 15, 1979.

"Usage-Sensitive Pricing" (with G. F. Borton)
(a three part series)
*Telephony*, January 7, 28, February 11, 1980.

"Perspectives on Usage-Sensitive Pricing"
*Public Utilities Fortnightly*, May 7, 1981.

"Diversification, Deregulation, and Increased Uncertainty in the Public Utility Industries"
*Comments Presented at the Thirteenth Annual Conference of the Institute of Public Utilities*, Williamsburg, VA - December 14 - 16, 1981.

"Local Telephone Pricing: Is There a Better Way?; The Costs of LMS Exceed its Benefits: a Report on Recent U.S. Experience."
*Proceedings of a conference held at Montreal, Quebec - Sponsored by Canadian Radio-Television and Telecommunications Commission and The Centre for the Study of Regulated Industries, McGill University*, May 2 - 4, 1984.

"Long-Run Regulation of AT&T: A Key Element of A Competitive Telecommunications Policy"
*Telematics*, August 1984.

"Is Equal Access an Adequate Justification for Removing Restrictions on BOC Diversification?"
*Presented at the Institute of Public Utilities Eighteenth Annual Conference,* Williamsburg, VA - December 8 - 10, 1986.

"Market Power and Competition Under an Equal Access Environment"
*Presented at the Sixteenth Annual Conference, "Impact of Deregulation and Market Forces on Public Utilities: The Future Role of Regulation" Institute of Public Utilities, Michigan State University,* Williamsburg, VA - December 3 - 5, 1987.

"Contestable Markets: Theory vs. Fact"
*Presented at the Conference on Current Issues in Telephone Regulations: Dominance and Cost Allocation in Interexchange Markets - Center for Legal and Regulatory Studies Department of Management Science and Information Systems - Graduate School of Business, University of Texas at Austin*, October 5, 1987.

"The Sources and Exercise of Market Power in the Market for Interexchange Telecommunications Services"
*Presented at the Nineteenth Annual Conference - "Alternatives to Traditional Regulation: Options for Reform" - Institute of Public Utilities, Michigan State University*, Williamsburg, VA, December, 1987.

"Assessing Market Power and Competition in The Telecommunications Industry: Toward an Empirical Foundation for Regulatory Reform"
*Federal Communications Law Journal*, Vol. 40 Num. 2, April 1988.

"A Perspective on Price Caps as a Substitute for Traditional Revenue Requirements Regulation"
*Presented at the Twentieth Annual Conference - "New Regulatory Concepts, Issues and Controversies" - Institute of Public Utilities, Michigan State University,* Williamsburg, VA, December, 1988.

"The Sustainability of Competition in Light of New Technologies" (with D. N. Townsend and P. D. Kravtin)
*Presented at the Twentieth Annual Conference - Institute of Public Utilities Michigan State University*, Williamsburg, VA, December, 1988.

"Adapting Telecom Regulation to Industry Change: Promoting Development Without Compromising Ratepayer Protection" (with S. C. Lundquist)
*IEEE Communications Magazine*, January, 1989.

"The Role of Cost Based Pricing of Telecommunications Services in the Age of Technology and Competition"
*Presented at National Regulatory Research Institute Conference,* Seattle, July 20, 1990.

"A Public Good/Private Good Framework for Identifying POTS Objectives for the Public Switched Network" (with Patricia D. Kravtin and Paul S. Keller)
Columbus, Ohio: *National Regulatory Research Institute,* September 1991.

"Telecommunications Regulation and Infrastructure Development: Alternative Models for the Public/Private Partnership"
*Prepared for the Economic Symposium of the International Telecommunications Union Europe Telecom '92 Conference, Budapest, Hungary,* October 15, 1992.

"Efficient Infrastructure Development and the Local Telephone Company's Role in Competitive Industry Environment" *Presented at the Twenty-Fourth Annual Conference, Institute of Public Utilities, Graduate School of Business, Michigan State University, "Shifting Boundaries between Regulation and Competition in Telecommunications and Energy"*, Williamsburg, VA, December 1992.

"Measurement of Telecommunications Productivity: Methods, Applications and Limitations" (with Françoise M. Clottes)
*Presented at Organisation for Economic Cooperation and Development, Working Party on Telecommunication and Information Services Policies, '93 Conference "Defining Performance Indicators for Competitive Telecommunications Markets", Paris, France,* February 8-9, 1993.

"Telecommunications Investment and Economic Development: Achieving efficiency and balance among competing public policy and stakeholder interests"
*Presented at the 105th Annual Convention and Regulatory Symposium, National Association of Regulatory Utility Commissioners, New York,* November 18, 1993.

"The Potential for Competition in the Market for Local Telephone Services" (with David N. Townsend and Paul S. Keller)
*Presented at the Organization for Economic Cooperation and Development Workshop on Telecommunication Infrastructure Competition,* December 6-7, 1993.

"Market Failure in Open Telecommunications Networks: Defining the new natural monopoly," *Utilities Policy*, Vol. 4, No. 1, January 1994.

*The Enduring Local Bottleneck: Monopoly Power and the Local Exchange Carriers*, (with Susan M. Gately, et al) a report prepared by ETI and Hatfield Associates, Inc. for AT&T, MCI and CompTel, February 1994.

*Commercially Feasible Resale of Local Telecommunications Services: An Essential Step in the Transition to Effective Local Competition*, (Susan M. Gately, et al) a report prepared by ETI for AT&T, July 1995.

"Efficient Public Investment in Telecommunications Infrastructure" *Land Economics*, Vol 71, No.3, August 1995.

*Funding Universal Service: Maximizing Penetration and Efficiency in a Competitive Local Service Environment*, Lee L. Selwyn with Susan M. Baldwin, under the direction of Donald Shepheard, A Time Warner Communications Policy White Paper, September 1995.

*Stranded Investment and the New Regulatory Bargain*, Lee L. Selwyn with Susan M. Baldwin, under the direction of Donald Shepheard, A Time Warner Communications Policy White Paper, September 1995

"Market Failure in Open Telecommunications Networks: Defining the new natural monopoly," in *Networks, Infrastructure, and the New Task for Regulation*, by Werner Sichel and Donal L. Alexander, eds., University of Michigan Press, 1996.

*Establishing Effective Local Exchange Competition: A Recommended Approach Based Upon an Analysis of the United States Experience*, Lee L. Selwyn, paper prepared for the Canadian Cable Television Association and filed as evidence in Telecom Public Notice CRTC 95-96, Local Interconnection and Network Component, January 26, 1996.

*The Cost of Universal Service, A Critical Assessment of the Benchmark Cost Model*, Susan M. Baldwin with Lee L. Selwyn, a report prepared by Economics and Technology, Inc. on behalf of the National Cable Television Association and submitted with Comments in FCC Docket No. CC-96-45, April 1996.

*Economic Considerations in the Evaluation of Alternative Digital Television Proposals*, Lee L. Selwyn (as Economic Consultant), paper prepared for the Computer Industry Coalition on Advanced Television Service, filed with comments in FCC MM Docket No. 87-268, In the Matter of Advanced

Television Systems and Their Impact Upon the Existing Television Broadcast Service, July 11, 1996.

*Assessing Incumbent LEC Claims to Special Revenue Recovery Mechanisms: Revenue opportunities, market assessments, and further empirical analysis of the "Gap" between embedded and forward-looking costs*, Patricia D. Kravtin and Lee L. Selwyn, In the Matter of Access Charge Reform, in CC Docket No. 96-262, January 29, 1997.

*The Use of Forward-Looking Economic Cost Proxy Models*, Susan M. Baldwin and Lee L. Selwyn, Economics and Technology, Inc., February 1997.

*The Effect of Internet Use On The Nation's Telephone Network*, Lee L. Selwyn and Joseph W. Laszlo, a report prepared for the Internet Access Coalition, July 22, 1997.

*Regulatory Treatment of ILEC Operations Support Systems Costs*, Lee L. Selwyn, Economics and Technology, Inc., September 1997.

*The "Connecticut Experience" with Telecommunications Competition: A Case in Getting it Wrong*, Lee L. Selwyn, Helen E. Golding and Susan M. Gately, Economics and Technology, Inc., February 1998.

*Where Have All The Numbers Gone?: Long-term Area Code Relief Policies and the Need for Short-term Reform*, prepared by Economics and Technology, Inc. for the Ad Hoc Telecommunications Users Committee, International Communications Association, March 1998.

*Broken Promises: A Review of Bell Atlantic-Pennsylvania's Performance Under Chapter 30*, Lee L. Selwyn, Sonia N. Jorge and Patricia D. Kravtin, Economics and Technology, Inc., June 1998.

*Building A Broadband America: The Competitive Keys to the Future of the Internet*, Lee L. Selwyn, Patricia D. Kravtin and Scott A. Coleman, a report prepared for the Competitive Broadband Coalition, May 1999.

*Bringing Broadband to Rural America: Investment and Innovation In the Wake of the Telecom Act*, Lee L. Selwyn, Scott C. Lundquist and Scott A. Coleman, a report prepared for the Competitive Broadband Coalition, September 1999.

Dr. Selwyn has been an invited speaker at numerous seminars and conferences on telecommunications regulation and policy, including meetings and workshops sponsored by the National Telecommunications and Information Administration, the National Association of

Regulatory Utility Commissioners, the U.S. General Services Administration, the Institute of Public Utilities at Michigan State University, the National Regulatory Research Institute at Ohio State University, the Harvard University Program on Information Resources Policy, the Columbia University Institute for Tele-Information, the International Communications Association, the Tele-Communications Association, the Western Conference of Public Service Commissioners, at the New England, Mid-America, Southern and Western regional PUC/PSC conferences, as well as at numerous conferences and workshops sponsored by individual regulatory agencies.

# Attachment 2

# CLEC Industry and Financial Data

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**Table A2-1**
**Total CLEC Capital Expenditures 1996-2003**
**As Reported by the New Paradigm Research Group**
**($Millions)**

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|---|---|---|
| Annual Capital Expenditure | $1,580 | $3,368 | $6,723 | $14,492 | $21,166 | $17,017 | $4,150 | $3,895 |
| Cumulative Capital Expenditure | $1,580 | $4,948 | $11,671 | $26,163 | $47,329 | $64,346 | $68,496 | $72,391 |

Source: New Paradigm Research Group, "2004 CLEC Report," Chapter 2, at 6.

**Table A2-2**
**CLEC Capital Expenditures ($000)**
**as reported by New Paradigm Research Group**
**2001 - 2003**

| | 2001 | 2002 | 2003 | CAGR |
|---|---|---|---|---|
| AT&T | $3,000,000 | $950,000 | $650,000 | -53.45% |
| Buckeye | $1,500 | $1,500 | $1,300 | -6.91% |
| Cablevision Lightpath | $126,200 | $30,000 | $70,000 | -25.52% |
| Cavalier | $15,000 | $10,000 | $10,000 | -18.35% |
| ChoiceOne | $85,051 | $28,500 | $20,000 | -51.51% |
| Cinergy | $1,000 | $1,000 | $1,000 | 0.00% |
| Comcast Business | $150,000 | $40,000 | $38,000 | -49.67% |
| Cox Communications | $335,000 | $1,932,416 | $1,700,000 | 125.27% |
| Grande Communications | $60,000 | $15,000 | $19,000 | -43.73% |
| ICG Communications | $41,463 | $51,162 | $49,000 | 8.71% |
| IDT Solutions | $90,000 | $6,000 | $6,500 | -73.13% |
| Integra Telecom | $50,000 | $35,000 | $40,000 | -10.56% |
| ITC^DeltaCom | $161,965 | $33,800 | $35,000 | -53.51% |
| KMC Telecom | $109,076 | $40,000 | $32,000 | -45.84% |
| MCI | $1,600,000 | $600,000 | $400,000 | -50.00% |
| McLeodUSA | n/a | $125,200 | $58,800 | n/a |
| NewSouth | $24,000 | $21,000 | $24,000 | 0.00% |
| NTS Communications | $20,000 | $10,000 | $15,000 | -13.40% |
| Qwest | $1,600,000 | $300,000 | $250,000 | -60.47% |
| SIGECOM | $2,500 | $2,000 | $3,900 | 24.90% |
| TelCove | $467,000 | $30,000 | $25,000 | -76.86% |
| Time Warner Telecom | $425,452 | $104,800 | $100,000 | -51.52% |
| XO | $1,433,745 | $250,900 | $38,994 | -83.51% |
| Xpedious | $30,000 | $10,000 | $8,000 | -48.36% |
| **All CLECs** | **$9,828,952** | **$4,628,278** | **$3,595,494** | **-39.52%** |

Note: CAGR is the compound annual growth rate, the average annual growth rate based solely upon the beginning and ending balance.

Sources: New Paradigm Research Group, "CLEC Report 2004," Chapter 6.
New Paradigm Research Group, "CLEC Report 2003," Chapter 6.

**Table A2-3**
**CLEC "On-Net" Buildings**
**As Reported by the New Paradigm Research Group**
**2001 - 2003**

| | 2001 | 2002 | 2003 | CAGR |
|---|---|---|---|---|
| AT&T | 6,300 | 6,300 | 6,500 | 1.57% |
| Buckeye TeleSystem | 447 | n/a | n/a | n/a |
| Cablevision Lightpath | 1,100 | 1,505 | 1,650 | 22.47% |
| Comcast Business | 250 | 265 | n/a | n/a |
| Cox Communications | 6,500 | 6,600 | 6,600 | 0.77% |
| ICG Communications | 912 | n/a | 904 | -0.44% |
| IDT Communications | 3,400 | 3,000 | 3,000 | -6.07% |
| McLeodUSA | n/a | 1,489 | 1,500 | 0.74% |
| NTS Communications | 50 | 50 | 50 | 0.00% |
| Qwest | 250 | n/a | n/a | n/a |
| RIO | 200 | 200 | 200 | 0.00% |
| TelCove | 3,369 | n/a | n/a | n/a |
| Time Warner Telecom | 3,146 | 3,541 | 4,429 | 18.65% |
| Verizon Avenue | 1,893 | 2,050 | 2,050 | 4.06% |
| XO | 2,379 | 2,405 | 2,355 | -0.51% |
| **Total CLECs** | **24,968** | **25,651** | **26,834** | **3.67%** |

Note: CAGR is the compound annual growth rate, the average annual growth rate based solely upon the beginning and ending balance.

Sources: New Paradigm Research Group, "CLEC Report 2004," Chapter 6.
New Paradigm Research Group, "CLEC Report 2003," Chapter 6.

**Table A2-4**
**CLEC Route Miles of Fiber**
**As Reported by the New Paradigm Research Group**
**2001 - 2003**

| | 2001 | 2002 | 2003 | CAGR |
|---|---|---|---|---|
| AT&T | 17,000 | 17,000 | 17,000 | 0.00% |
| Buckeye | 1,813 | 1,813 | 1,813 | 0.00% |
| Cablevision Lightpath | 10,000 | 2,200 | 2,300 | -52.04% |
| Cavalier | 2,000 | 2,000 | 2,000 | 0.00% |
| ChoiceOne | 613 | 1,343 | 1,571 | 60.09% |
| Cinergy | 1,000 | 1,000 | 1,000 | 0.00% |
| Comcast Business | 1,500 | 1,600 | 1,600 | 3.28% |
| Cox Communications | 9,000 | 9,500 | 9,500 | 2.74% |
| Grande Communications | 800 | 800 | 5,000 | 150.00% |
| ICG Communications | 5,542 | 5,542 | 5,542 | 0.00% |
| IDT Solutions | 10,000 | 5,000 | n/a | -100.00% |
| Integra Telecom | 85 | 85 | 85 | 0.00% |
| ITC^DeltaCom | 9,980 | 9,980 | 14,500 | 20.54% |
| KMC Telecom | 2,336 | 2,336 | 2,400 | 1.36% |
| MCI | 10,937 | 10,937 | 11,500 | 2.54% |
| McLeodUSA | n/a | 28,500 | 31,000 | n/a |
| NewSouth | n/a | n/a | n/a | n/a |
| NTS Communications | 7,000 | 7,000 | 7,000 | 0.00% |
| Qwest | 1,800 | 1,800 | 1,800 | 0.00% |
| SIGECOM | 860 | 860 | 860 | 0.00% |
| TelCove | 19,186 | 19,186 | 19,186 | 0.00% |
| Time Warner Telecom | 16,806 | 17,384 | 18,039 | 3.60% |
| XO | 22,398 | 23,700 | 23,800 | 3.08% |
| Xpedious | n/a | 3,500 | 3,500 | n/a |
| **All CLECs** | **140,656** | **136,066** | **146,496** | **2.05%** |

Note: CAGR is the compound annual growth rate, the average annual growth rate based solely upon the beginning and ending balance.

Sources: New Paradigm Research Group, "CLEC Report 2004," Chapter 4, Table 16, at 3-4.
New Paradigm Research Group, "CLEC Report 2003," Chapter 4, Table 14, at 4-5.

**Table A2-5**
**Bankruptcies of Publicly Traded CLECs Since January 2001**
**Identified by the New Paradigm Research Group**

| Company | Bankruptcy Filing Date | Total CLEC Assets at the Time of Filing | Current Status of Company |
|---|---|---|---|
| Northpoint Communications | Jan 16, 2001 | $738,211,000 | Assets acq. by AT&T |
| Pathnet Telecom | Apr 2, 2001 | $304,413,838 | Liquidated |
| Winstar Communications | Apr 18, 2001 | $4,469,245,000 | Assets acq. by IDT |
| Covergent Communications | Apr 19, 2001 | $297,357,000 | Liquidated |
| Advanced Radio Telecom | Apr 20, 2001 | $539,434,000 | Reorganization Complete - Known as 1st Ave. Ntwks |
| Telscape International, Inc. | Apr 27, 2001 | $343,019,841 | Reorganization Complete |
| Teligent | May 21, 2001 | $1,178,014,000 | Reorganization Complete |
| Novo Networks | Jul 1, 2001 | $60,927,908 | Operating Under Ch. 11 |
| Rhythms | Aug 1, 2001 | $973,927,000 | Operating Under Ch. 11 |
| Covad | Aug 7, 2001 | $1,255,932,000 | Reorganization Complete |
| Ardent Communications | Oct 11, 2001 | $101,621,000 | Liquidated |
| Net2000 Communications | Nov 16, 2001 | $257,730,000 | Assets acq. by Cavalier |
| Global Crossing, Ltd. | Jan 28, 2002 | $25,511,000,000 | Reorganization Complete |
| McLeodUSA | Jan 31, 2002 | $4,792,600,000 | Reorganization Complete |
| Network Plus Corp. | Feb 4, 2002 | $433,239,000 | Assets acq. by Broadview Ntwks |
| Logix Communications | Feb 28, 2002 | $234,210,000 | Assets acq. by Western Communications |
| Adelphia Business Solutions | Mar 27, 2002 | $2,126,334,000 | Reorganization Complete - Known as TelCove |
| Mpower Communications | Apr 8, 2002 | $691,646,000 | Reorganization Complete |
| XO Communications | Jun 16, 2002 | $5,704,479,000 | Reorganization Complete |
| ITC^DeltaCom | Jun 25, 2002 | $841,482,000 | Reorganization Complete |
| WorldCom (MFS Subsidiary) | Jul 21, 2002 | $12,500,000,000 | Reorganization Complete - Known as MCI |
| Birch Telecom | Jul 30, 2002 | $238,176,000 | Reorganization Complete |
| Knology Broadband | Sep 18, 2002 | $369,398,000 | Reorganization Complete – Subsidiary of Knology Inc |
| CTC Communications | Oct 3, 2002 | $329,328,338 | Reorganization Complete |
| Allegiance Telecom | May 14, 2003 | $1,441,218,000 | Assets acq. by XO |
| ATX/CoreComm | Jan 15, 2004 | $158,723,000 | Operating Under Ch. 11 |
| **Total CLECs** | | **$65,891,665,925** | |

Note: Total CLEC assets at the time of bankruptcy filing and the current status of the CLEC do not represent information in the New Paradigm Research Group.

Sources: New Paradigm Research Group, "CLEC Report 2004," Chapter 2, at 2-4.
10-Qs, 10-Ks, and other company press releases identified in Table A2-7.

**Table A2-6**
**Net Economic Loss of Previously Bankrupt Publicly Traded CLECs**
**Identified by the New Paradigm Research Group**

| Company[1] | Bankruptcy Filing Date | Total CLEC Assets at the Time of Filing | Acq. Price/ Current Value of Assets | Net Economic Loss |
|---|---|---|---|---|
| Northpoint Communications | Jan 16, 2001 | $738,211,000 | $135,000,000 | $603,211,000 |
| Winstar Communications | Apr 18, 2001 | $4,469,245,000 | $55,800,000 | $4,413,445,000 |
| Advanced Radio Telecom | Apr 20, 2001 | $539,434,000 | $29,257,000 | $510,177,000 |
| Novo Networks | Jul 1, 2001 | $60,927,908 | $4,363,800 | $56,564,108 |
| Rhythms[2] | Aug 1, 2001 | $973,927,000 | $32,997,000 | $940,930,000 |
| Covad | Aug 7, 2001 | $1,255,932,000 | $425,451,000 | $830,481,000 |
| Global Crossing, Ltd. | Jan 28, 2002 | $25,511,000,000 | $2,171,000,000 | $23,340,000,000 |
| McLeodUSA | Jan 31, 2002 | $4,792,600,000 | $1,461,300,000 | $3,331,300,000 |
| Network Plus Corp. | Feb 4, 2002 | $433,239,000 | $15,750,000 | $417,489,000 |
| Logix Communications | Feb 28, 2002 | $234,210,000 | $24,300,000 | $209,910,000 |
| Mpower Communications | Apr 8, 2002 | $691,646,000 | $99,874,000 | $591,772,000 |
| XO Communications | Jun 16, 2002 | $5,704,479,000 | $1,507,939,000 | $4,196,540,000 |
| ITC^DeltaCom | Jun 25, 2002 | $841,482,000 | $699,391,000 | $142,091,000 |
| WorldCom (MFS Subsidiary)[3] | Jul 21, 2002 | $12,500,000,000 | $3,028,800,000 | $9,471,200,000 |
| Allegiance Telecom | May 14, 2003 | $1,441,218,000 | $635,000,000 | $806,218,000 |
| **Total CLECs** | | **$60,187,550,908** | **$10,326,222,800** | **$49,861,328,108** |

Notes: (1) This table does not include some previously bankrupt CLECs (e.g. Adelphia Business Solutions and Teligent) because there is no publicly available information about the current value of their assets. In many instances, including these two examples, the previously bankrupt public CLEC has gone private and thus no longer provides asset information to the public.

(2) Rhythms Net Connections sold some of its assets to WorldCom in December 2001 for $31,000,000. The remaining $1.99 million in assets are still owned by Rhythms.

(3) WorldCom's MFS subsidiary assets have been estimated to be 12% of MCI's total assets because when MFS was originally purchased by WorldCom, it represented 12% of WorldCom's total assets.

Sources: New Paradigm Research Group, "CLEC Report 2004," Chapter 2, at 2-4.
10-Qs, 10-Ks, and other company press releases identified in Table A2-7.

| Table A2-7<br>Source Materials<br>Identified in Table 1, Table A2-5, and Table A2-6 | | |
|---|---|---|
| **Table** | **Input** | **Source** |
| Table 1 | Cablevision Lightpath: Route Miles of Fiber | *Lightpath's Network Advantage*, Cablevision Lightpath, available at http://www.lightpath.net/Interior188.html, accessed 8/26/04; or *Getting Down to Business*, CED Magazine, http://www.cedmagazine.com/ced/2003/1103/11a.htm, accessed 8/27/04. |
| | IDT Solutions: Route Miles of Fiber | *IDT Corporation Announces Reorganization of Winstar/IDT Solutions*, IDT Press Release, available at http://www.idtsolutions.net/about/press/releases/1023.asp, accessed 9/8/04. |
| | IDT Solutions: On-Net Buildings | *Business Continuity Solutions*, IDT Solutions, available at http://www.idtsolutions.net/products/buscont/solutions.asp, accessed 8/26/04. |
| | KMC Telecom: On-Net Buildings | *Wholesale Services*, KMC Telecom, http://www.kmctelecom.com/Wholesale/, accessed 8/27/04 |
| | McLeodUSA: On-Net Buildings | McLeodUSA Release, "McLeodUSA Reports Second Quarter 2004 Results," July 28, 2004, at 2. |
| | TelCove: On-Net Buildings | TelCove Company Brochure, *Telcove: Advanced Secure Communications*, available on TelCove's website at http://www.telcove.com/prroom/media.htm, accessed 8/27/04. |
| Table A2-5 and Table A2-6 | Northpoint: Total CLEC Assets at the time of Filing | Northpoint Communications, Third Quarter 2000 10Q filed with the Securities & Exchange Commission, 11/20/00. |
| | Northpoint: Current Status and Current Value of assets | AT&T Press Release, "AT&T Acquires Assets of Northpoint Communications," *see* http://www.att.com/news/item/0,1847,3726,00.html, accessed 9/14/04. |
| | Pathnet: Total CLEC Assets at the time of Filing | Pathnet Telecommunications, First Quarter 2001 10Q filed with the Securities & Exchange Commission, 5/15/01. |
| | Pathnet: Current Status | Telecom Asset Management, Recent Transactions, *see* http://www.telecomassets.com, accessed 9/14/04. |
| | Winstar: Total CLEC Assets at the time of Filing | Winstar Communications, Third Quarter 2000 10Q filed with the Securities & Exchange Commission, 11/14/00. |
| | Winstar: Current Status and Current Value of assets | IDT Corp., 2003 10K filed with the Securities & Exchange Commission, 10/29/04. |
| | Convergent: Total CLEC Assets at the time of Filing | Convergent Communications, Third Quarter 2000 10Q filed with the Securities & Exchange Commission, 11/13/00. |
| | Convergent: Current Status | http://www.nsn-wireless.net/Bankrupt_telcoms.htm, accessed 9/14/04 |
| | Advanced Radio: Total CLEC Assets at the time of Filing | Advanced Radio Communications, Third Quarter 2000 10Q filed with the Securities & Exchange Commission, 11/14/00. |

| | | |
|---|---|---|
| Table A2-5 and Table A2-6 | Advanced Radio: Current Status and Value of assets | Advanced Radio Communications, Second Quarter 2004 10Q filed with the Securities & Exchange Commission, 7/29/04. |
| | Telscape: Total CLEC Assets at the time of Filing | Telscapes International, Third Quarter 2000 10Q filed with the Securities & Exchange Commission, 11/20/00. |
| | Telscape: Current Status | *Telscape Fact Sheet*, available at http://www.telscape.com/about_corp.html#, accessed 9/14/04. |
| | Teligent: Total CLEC Assets at the time of Filing | Teligent, Third Quarter 2000 10Q filed with the Securities & Exchange Commission, 11/14/00. |
| | Teligent: Current Status | *Teligent: A Fixed Wireless Company*, available at http://www.teligent.com/aboutustg.htm, accessed 9/14/04. |
| | Novo: Total CLEC Assets at the time of Filing | Novo Networks, First Quarter 2001 10Q filed with the Securities & Exchange Commission, 5/15/01. |
| | Novo: Current Status and Current Value of assets | Novo Networks, Second Quarter 2004 10Q filed with the Securities & Exchange Commission, 5/17/04. |
| | Rhythms: Total CLEC Assets at the time of Filing | Rhythms's First Quarter 2001 10Q filed with the Securities & Exchange Commission, 5/09/01. |
| | Rhythms: Current Status and Current Value of assets | Rhythms' 8K filed with the Securities & Exchange Commission, 4/28/04. Info concerning Rhythms' sale of assets to WorldCom see *Failed Start-up Landed Among Scandals' Debris*, USA Today, available at http://www.usatoday.com/money/industries/technology/2002-12-18-rhythm_x.htm, accessed 9/20/04. |
| | Covad: Total CLEC Assets at the time of Filing | Covad Communications, First Quarter 2001 10Q filed with the Securities & Exchange Commission, 6/20/01. |
| | Covad: Current Status and Current Value of assets | Covad Communications, Second Quarter 2004 10Q filed with the Securities & Exchange Commission, 7/30/04. |
| | Ardent: Total CLEC Assets at the time of Filing | Ardent Communications, Second Quarter 2001 10Q filed with the Securities & Exchange Commission, 8/20/01. |
| | Ardent: Current Status | *Ardent Communications Pieces Sold*, Washington Business Journal, available at http://washington.bizjournals.com/washington/stories/2002/05/20/daily7.html, accessed 9/14/04 |
| | Net2000: Total CLEC Assets at the time of Filing | Net2000's Third Quarter 2001 10Q filed with the Securities & Exchange Commission, 11/19/01. |
| | Net2000: Current Status | *Cavalier Making Telecom Deal*, Philadelphia Business Journal, available at http://www.bizjournals.com/philadelphia/stories/2001/11/12/daily52.html, accessed 9/14/04. |
| | Global Crossing: Total CLEC Assets at the time of Filing | Global Crossing, Third Quarter 2001 10Q filed with the Securities & Exchange Commission, 11/14/01. |
| | Global Crossing: Current Status and Current Value of assets | Global Crossing, 2003 10K filed with the Securities & Exchange Commission, 3/26/04. |

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| Table A2-5 and Table A2-6 | McLeodUSA: Total CLEC Assets at the time of Filing | McLeod's Third Quarter 2001 10Q filed with the Securities & Exchange Commission, 11/14/01. |
| | McLeodUSA: Current Status and Current Value of assets | McLeod's Second Quarter 2004 10K filed with the Securities & Exchange Commission, 8/9/04. |
| | Network Plus: Total CLEC Assets at the time of Filing | Network Plus's Third Quarter 2001 10Q filed with the Securities & Exchange Commission, 11/13/01. |
| | Network Plus: Current Status and Current Value of assets | *Broadview Networks Acquires NetworkPlus from Bankruptcy for $15.75 million*, Converge Network Digest, available at http://www.convergedigest.com/Bandwidth/newnetworksarticle.asp?ID=2945, accessed 9/14/04. |
| | Logix: Total CLEC Assets at the time of Filing | Logix's Third Quarter 2001 10Q filed with the Securities & Exchange Commission, 11/14/01. |
| | Logix: Current Status and Current Value of assets | *Houston Company Buys Logix*, Austin Business Journal, available at http://www.bizjournals.com/austin/stories/2002/10/14/daily11.html, accessed 9/14/04. |
| | Adelphia: Total CLEC Assets at the time of Filing | Adelphia Business Solutions, Third Quarter 2001 10Q filed with the Securities & Exchange Commission, 11/13/01. |
| | Adelphia: Current Status | *Adelphia Business Solutions and its Creditors Reach Agreement*, TelCove Press Release, available at http://www.telcove.com/prroom/pr032603.htm, accessed 9/14/04. |
| | Mpower: Total CLEC Assets at the time of Filing | Mpower Communications, Third Quarter 2001 10Q filed with the Securities & Exchange Commission, 11/13/01. |
| | Mpower: Current Status and Current Value of assets | Mpower Communications, Second Quarter 2004 10K filed with the Securities & Exchange Commission, 8/6/04. |
| | XO: Total CLEC Assets at the time of Filing | XO Communications, First Quarter 2002 10Q filed with the Securities & Exchange Commission, 5/14/02. |
| | XO: Current Status and Current Value of assets | XO Communications, Second quarter 2004 10K filed with the Securities & Exchange Commission, 8/9/04. |
| | ITC: Total CLEC Assets at the time of Filing | ITC^DeltaCom, First Quarter 2002 10Q filed with the Securities & Exchange Commission, 5/15/02. |
| | ITC: Current Status and Current Value of assets | ITC^DeltaCom, Second Quarter 2004 10K filed with the Securities & Exchange Commission, 8/9/04. |
| | WorldCom (MFS Subsidiary): Total CLEC Assets at the time of Filing | WorldCom, First Quarter 2002 10Q filed with the Securities & Exchange Commission, 5/15/02. |
| | WorldCom (MFS Subsidiary): Current Status and Current Value of assets | MCI, Second Quarter 2004 10K filed with the Securities & Exchange Commission, 8/9/04. |
| | Birch: Total CLEC Assets at the time of Filing | Birch Telecom, Third Quarter 2001 10Q filed with the Securities & Exchange Commission, 11/14/01. |

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| Table A2-5 and Table A2-6 | Birch: Current Status | Birch Telecom website available at www.birch.com, accessed 9/14/04. |
| | Knology: Total CLEC Assets at the time of Filing | Knology Broadband, Second Quarter 2002 10Q filed with the Securities & Exchange Commission, 8/13/02. |
| | Knology: Current Status | Knology Inc., Second Quarter 2004 10K filed with the Securities & Exchange Commission, 8/13/04 |
| | CTC: Total CLEC Assets at the time of Filing | CTC's Second Quarter 2002 10Q filed with the Securities & Exchange Commission, 8/14/02. |
| | CTC: Current Status | *CTC Bought out of Bankruptcy by Columbia Ventures*, Boston Business Journal, available at http://www.bizjournals.com/boston/stories/2003/12/15/daily32.html, accessed 9/14/04. |
| | Allegiance: Total CLEC Assets at the time of Filing | Allegiance Telecom, 2002 10K filed with the Securities & Exchange Commission, 3/31/03. |
| | Allegiance: Current Status and Current Value of assets | XO Communications, Second Quarter 2004 10K filed with the Securities & Exchange Commission, 8/9/04. |
| | ATX/CoreComm: Total CLEC Assets at the time of Filing | ATX/CoreComm, Third Quarter 2003 10Q filed with the Securities & Exchange Commission, 11/19/03. |
| | ATX/CoreComm: Current Status | ATX/CoreComm, 8K filed with the Securities & Exchange Commission, 6/2/04. |